



**FISH HEALTH MANAGEMENT
GRANT F-75-R- 16**

January 1 – December 31, 1999

By:

**Keith Johnson
Fish Pathologist Supervisor**

**Douglas Burton
Resident Fish Pathologist**

**A. Douglas Munson
Anadromous Fish Pathologist**

**IDFG 01-14
April 2001**

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	1
PERIOD COVERED BY THIS REPORT	2
FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF IDAHO DEPARTMENT OF FISH AND GAME.....	2
Resident Hatchery Activities.....	2
American Falls Hatchery	2
Ashton Hatchery.....	2
Cabinet Gorge Hatchery.....	3
Clark Fork Hatchery	3
Clearwater Hatchery Resident Program	3
Grace Hatchery	3
Hagerman State Hatchery.....	4
Hayspur Hatchery.....	4
Henrys Lake Hatchery.....	5
Mackay Hatchery.....	5
McCall Hatchery Resident Program.....	6
Nampa Hatchery.....	6
Anadromous Hatcheries.....	6
Clearwater Hatchery and Crooked River, Powell and Red River Satellite Facilities.....	6
Clearwater Hatchery.....	6
Crooked River Satellite Facility	7
Powell Satellite Facility	7
Red River Satellite Facility	7
Magic Valley Hatchery.....	7
McCall Hatchery	8
Niagara Springs Hatchery	8
Oxbow Hatchery.....	9
Pahsimeroi Hatchery	9
Rapid River Hatchery	9
Sawtooth Hatchery	10
Sockeye And Chinook Captive Broodstock	10
Redfish Lake Sockeye Salmon Captive Broodstock	10
Salmon River Chinook Captive Rearing	11

TABLE OF CONTENTS

	<u>Page</u>
IDAHO WILD FISH SURVEY.....	12
TRANSPORTATION AND IMPORTATION PERMITS.....	13
REPORTS & PRESENTATIONS.....	13
PRODUCTION STUDIES AND SURVEYS TO ENHANCE FISH HEALTH	13
RECOMMENTATIONS	14
ACKNOWLEDGEMENTS	15
APPENDICES	16
Appendix 1. Fish Health Summary Report, 1999.....	17
Appendix 2. Geographic Location of Idaho Department of Fish and Game Culture Facilities.....	41

State of: Idaho

Name: FISH HEALTH ADMINISTRATION

Project: F-75-R-16

Period Covered: January 1-December 31, 1999

ABSTRACT

This report contains a description of the activities of the Eagle Fish Health Laboratory, operated by the Idaho Department of Fish and Game, for the calendar year 1999. The primary charge of this program is to monitor, inspect, and improve the health of fish raised at 11 resident hatcheries, 11 anadromous hatcheries and satellites, and Eagle Hatchery, which rears ESA-listed salmon captive broodstocks. Results of these diagnostic cases are presented in the text by program and facility. The most significant pathogens encountered in the resident and anadromous programs were cold water disease, bacterial kidney disease, infectious hematopoietic necrosis virus, bacterial gill disease, and furunculosis. Bacterial kidney disease also caused considerable loss in one group of chinook captive broodstock. Infestations with the copepod parasite, *Salmincola californiensis*, continued to be severe in groups of Lemhi River chinook captives. The combination of manual removal and gastric intubation of ivermectin were developed for an effective control measure. The Idaho Department of Fish and Game fisheries managers, researchers, hatcheries, and Eagle Fish Health Laboratory pathologists utilized the wet laboratory during the year.

Wild salmonids from six of seven regions of the state were examined for the parasite *Myxobolus cerebralis* that causes whirling disease. The only new occurrences of whirling disease this year were from tributaries of drainages determined to be positive in prior years. We completed research to determine the seasonal infectivity of *M. cerebralis* in the South Fork Boise River downstream of Anderson Ranch Dam. The staffs of both the Eagle Fish Health Laboratory and Eagle Hatchery supported this research.

The Eagle Fish Health Laboratory staff remained active participants in regional and national fish health issues. This included administering the Investigational New Animal Drug program through the United States Fish and Wildlife Service and the University of Idaho. Examples of additional liaison activities are included in the text.

Authors:

Keith Johnson
Fish Pathologist Supervisor

Douglas Burton
Resident Fish Pathologist

A. Douglas Munson
Anadromous Fish Pathologist

PERIOD COVERED BY THIS REPORT

This report covers activities for grant F-75-R-16 Federal Aid in Fish Restoration January 1 to December 31, 1999 by the Idaho Department of Fish and Game (IDFG).

FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF THE IDAHO DEPARTMENT OF FISH AND GAME

Resident Hatchery Activities

The Resident Fish Pathologist, stationed at the Eagle Fish Health Laboratory (EFHL), provides service for hatcheries which rear and plant resident species. The pathologist's duties include collection of samples from diagnostic and inspection cases for 11 culture facilities and their associated captive and feral broodstocks, monitoring diagnostic results, reporting results to hatchery management, recommending and supervising treatments, and preparing and maintaining files for Investigational New Animal Drug (INAD) reporting for each station. Samples were also obtained as part of a survey of wild salmonids of Idaho waters. In 1999 these activities generated 17 laboratory accessions for the wild fish survey, 40 diagnostic, 22 inspection, and 18 research cases for the resident program. The specific results for these cases are included in Appendix 1 and are listed by Department region and for each fish culture facility. A brief summary of those results and activities for each resident station follows.

American Falls Hatchery

No significant clinical disease episodes occurred at American Falls Hatchery in 1999. The pathologist visited the facility and performed an inspection of catchable-size Kamloops rainbow trout *Oncorhynchus mykiss*. This was done to provide baseline data for an IDFG research project to compare the return to creel of fish from three IDFG hatcheries. This was the third consecutive year in which bacterial cold water disease (CWD), caused by *Flavobacterium psychrophilum*, was kept under control at American Falls by good hatchery management techniques rather than by chemical therapy.

Ashton Hatchery

No significant clinical disease episodes occurred at Ashton Hatchery in 1999. The facility was visited once, but no samples were taken for laboratory analysis. Significant reductions in production, a result of cuts in personnel and budget, resulted in lower fish densities and healthier fish. Hatchery personnel reported the presence of *Gyrodactylus*, an external trematode parasite, but never at levels that required treatment.

A significant concern is the proximity of Ashton Hatchery to waters containing *Myxobolus cerebralis* (MC), the causative agent of whirling disease (WD). Fully enclosing the hatchery intake needs serious consideration.

Cabinet Gorge Hatchery

No significant clinical disease episodes occurred at Cabinet Gorge Hatchery in 1999. Inspection sampling was done in May on kokanee fry and fall chinook juveniles. No pathogens were detected in either population.

Late-spawning kokanee *O. nerka kennerlyi* production at Cabinet Gorge Hatchery originates primarily from eggs taken at Sullivan Springs on Lake Pend Oreille. Smaller numbers of adults return to the hatchery ladder on the Clark Fork River. Spawning adults at these sites are sampled annually for fish pathogens. Positive test results from adults in 1999 included *Renibacterium salmoninarum* (RS) antigen from 2 of 12 five-fish pooled samples of Sullivan Springs fish and from 3 of 12 pools from Clark Fork River, using the enzyme-linked immunosorbent assay (ELISA). Antigen detection levels were very low, and no RS organisms were detected in kidney tissue smears using the fluorescent antibody test (FAT). No replicating viruses or MC spores were detected.

Clark Fork Hatchery

Infectious pancreatic necrosis virus (IPNV) and RS are the primary pathogens of concern at Clark Fork Hatchery, because the hatchery's open water source harbors wild brook trout that are proven carriers of both pathogens. No IPNV was isolated from fish in 1999, due primarily to the timing of sampling rather than to the absence of the virus. The 4-year-old westslope cutthroat *O. clarki lewisi* broodstock population was sampled and no viruses or MC spores were detected. *Renibacterium salmoninarum* was detected in kidney tissues in 1 of 15 fish using FAT. The more sensitive ELISA test was not done due to a shortage of good reagents at the laboratory.

Hayspur-strain rainbow trout fry were diagnosed with bacterial gill disease (BGD). Feed size and type were changed and the episode resolved without chemical treatment. Two year-classes of juvenile westslope cutthroat and the Hayspur rainbow fingerling were inspected. No replicating viruses or RS were detected. The only significant bacterial pathogen detected was *F. psychrophilum*, from the broodyear 1998 (BY98) cutthroat and at a low, carrier level.

Clearwater Hatchery Resident Program

Four different diagnostic cases were conducted on the Hayspur-strain diploid and triploid rainbow trout at Clearwater Hatchery. No replicating viruses were detected. Every case involved a MAS, and two cases were complicated by concomitant CWD. Oxytetracycline (OTC) was applied in medicated feed at standard dosage using the existing label. Mortality rates were reduced to acceptable, but not outstanding, levels. Many species of *Aeromonas* bacteria are ubiquitous in the soil, water, or even in fish feeds. MAS has occurred in nearly every lot of rainbow trout reared at Clearwater Hatchery since the hatchery was constructed.

Grace Hatchery

No significant clinical disease or fish losses occurred at Grace Hatchery in 1999. A single pathologist visit generated two inspection cases from rainbow trout. No pathogens were detected. Production at Grace Hatchery was reduced this year, resulting in lower fish densities and healthier fish. A significant turnover in personnel may have also contributed to better management practices.

Hagerman State Hatchery

A total of 21 diagnostic and two inspection cases were examined at Hagerman State Hatchery in 1999. Catchable-size Kamloops trout on both the Riley Creek and Tucker Springs water sources were inspected for pathogens and evaluated using an organosomatic index to provide baseline data for return-to-creel research study referred to earlier. A carrier state of infectious hematopoietic necrosis virus (IHNV) was detected in these fish.

The peculiar losses in the hatchery vats were less serious this year, but continued to occur in a totally random fashion within egg lots and between different vats. An etiologic agent has not been identified. Fish on feed for 7-10 days suddenly go off feed and move to the bottom of the vat. Fecal casts sometimes appear, and mortality shortly follows.

Losses from rainbow lots in the outside raceways frequently involved a combination of pathogens. IHNV was detected nine times, often in combination with one or more bacterial pathogens (*F. psychrophilum*, *F. columnare*, *Aeromonas hydrophila*, or *A. sobria*). The hatchery personnel observed several additional IHN episodes without calling on the EFHL for diagnostic confirmation. Several bacterial infections, primarily CWD and MAS, were diagnosed without the complication of virus. These were successfully treated with OTC-medicated feed, using the existing label or an INAD protocol; whichever was appropriate for the situation. *Aeromonas salmonicida*, the causative bacteria of furunculosis, was detected at Hagerman in 1998 but not in 1999.

One bright side to Hagerman Hatchery's disease situation was that the overall percentage of loss to IHNV in 1999 was again down when compared with most previous years. Some lots of fish went through the entire rearing cycle without any clinical signs of the virus. This is probably due to the bird netting over the large raceways, improvement of the gate system for the bird netting, reconstruction of the Tucker Springs portion of the large raceway headrace, reduced production levels, and management efforts to grow the fish larger in the small raceways.

Hayspur Hatchery

The resident hatchery pathologist's work at Hayspur Hatchery involved considerable effort to inspect broodstock and broodstock replacement lots, and to inject the adult broodstock with Penicillin-G. Two diagnostic cases detected CWD and MAS in both the BY97 and BY98 juvenile Hayspur-strain (R9) rainbow. Both groups were treated with OTC-medicated feed at standard dosage. The BY97 group responded well, but chronic-level mortalities persisted in the BY98 group to the end of the year.

The BY97 R9 replacement lot was inspected in June. No viruses or significant bacteria were detected. The fish tested positive for RS antigen at low levels by ELISA in 9 of 30 two-fish pools, although FAT results for the same individuals were all negative. *Myxobolus cerebralis* spores were found in 1 of 6 five-fish pooled samples, and was confirmed by the polymerase chain reaction test (PCR), which detects parasite DNA within samples of fish tissue. These fish were reared on spring/well water in the small raceways, which are in very close proximity to an open pond. Evidence suggests that river otters, moving freely from the earthen-bottom pond to prey on these fish, were the likely vectors of the parasite. Construction of a solid predator enclosure around these raceways would greatly benefit the program, if replacement populations continue to be kept on site. The BY97 Kamloops (K1) replacement lot was also inspected. No viruses or MC spores were detected. No bacteria were detected from randomly sampled fish, but one obviously moribund individual was sampled and diagnosed with clinical CWD. ELISA detected *Renibacterium* antigen in 8 of 30 two-fish pools at low levels, but FAT results were again negative.

All BY98 replacement fish from both the R9 and K1 populations were given intraperitoneal injections of an autogenous *F. psychrophilum* bacterin (vaccine), prior to being moved from the inside vats to the small outside raceways. This was an experimental treatment, developed by Aqua Health Ltd., Charlottetown, P.E.I., Canada, from an isolate of the bacteria taken at Hayspur in 1998. The R9 lot subsequently experienced an episode of CWD and MAS, but no clinical disease has yet been observed in the K1 lot. Thus, the benefit of the treatment is equivocal.

All adult spawning fish, except males in the light control ponds, were injected with Penicillin-G (Pen-G) at a dose level of 3000 IU/lb. The light control males were not injected because they were ready to spawn and we were uncertain what effect the sterile saline, used to dilute the Pen-G, would have on sperm viability. The purpose of the injections was to inhibit transmission of *F. psychrophilum*, either horizontally within the ponds or via the eggs. This was the second year that Pen-G was used exclusively for this purpose. Penicillin-G was chosen in an attempt to use an injectable drug therapy that is less likely to cause future antibacterial resistance. The brood fish at Hayspur Hatchery were a contained population and no injected fish will ever be used for human consumption.

The major focus of the pathologist's work at Hayspur Hatchery was inspection of the brood populations. During the 1999 calendar year, a total of 352 female R9 and K1 brood fish were tested for viruses (ovarian fluids), and RS by ovarian fluid cell pellet fluorescent antibody test (OCP-FAT). In addition, 120 females were sacrificed for kidney ELISA samples. No viruses were detected. *Renibacterium* organisms were detected by OCP-FAT from two K1 fishes and ELISA detected RS antigen in 5 of 60 R9 and in 3 of 50 K1 trout. Eggs from the FAT-positive females and from those with an ELISA optical density above 0.110 were culled from the replacement broodstock lots.

Henrys Lake Hatchery

Fish health inspection samples were taken from spawning Yellowstone cutthroat *O. clarki bouvieri* at Henrys Lake Hatchery from March 9 through April 19, 1999. Ovarian fluids were collected by hatchery personnel and shipped to the EFHL where they were tested for viruses (203 females in 29 seven-fish pools) and RS by OCP-FAT (1435 females in 205 seven-fish pools). A group of 60 fish (males and females) were sacrificed for kidney FAT, ELISA, virology, bacteriology (12 fish) and *Myxobolus* tests. No viruses or RS were detected in any of the samples (tissues and ovarian fluids). No eggs were discarded in 1999. Bacteriology samples showed carrier-level infections of *F. psychrophilum* in 7 of 12 fish. *Myxobolus* spores were detected in 7 of 12 five-fish pools by the pepsin/trypsin digest method, and PCR tests confirmed MC from 8 of 10 individuals. This population was previously confirmed positive for MC by histology in 1996.

Mackay Hatchery

No significant clinical disease or fish losses occurred at Mackay Hatchery in 1999. The pathologist did not physically visit the hatchery during the year, an oversight that will be remedied early in 2000. Communications with the hatchery personnel indicated that the fish on the hatchery performed well as usual. Mackay Hatchery received green eggs from the early-spawning kokanee salmon in Deadwood Reservoir. Spawning adult fish were inspected at the trap site. No viruses or *Myxobolus* spores were detected, but ELISA detected RS antigen in 8 of 12 five-fish pooled samples. Fluorescent antibody tests for RS were negative. These results were comparable with previous year's data, although a single moderate ELISA value in 1999 was higher than usual.

Production fish at Mackay Hatchery have never tested positive for MC, but the parasite has been found in fish from the settling pond which drains to the Big Lost River, a known positive location. This proximity to the production raceways causes concern over the possibility of transmission via animal vectors. Investment in fences and screens would be highly desirable.

McCall Hatchery Resident Program

The westslope cutthroat trout run at Fish Lake was again so low in 1999 that no samples were taken. It is likely that this program will be discontinued in the near future.

Nampa Hatchery

Bacterial CWD and MAS, primarily *A. hydrophila* or *A. sobria*, continued to be the most common diseases diagnosed in rainbow trout at Nampa Hatchery. Outbreaks of MAS in Hayspur rainbow reared in the small, "A" raceways were frequent in the spring and early summer. The hatchery was at full production, and heavy loading may have been a contributing factor to these episodes. Treatments with OTC-medicated feed on the existing label were moderately successful. Two episodes of CWD were treated under INAD protocols with better success. Signs of a presumptive bluegreen algae/cyanobacteria toxicosis were observed, including detection of long chains of an unidentified, single-celled organism in the hindgut of affected fish. This is the first occurrence of this syndrome since 1995. Samples were sent to specialists at Wright State University, but attempts to identify the organism were inconclusive.

Catchable-size K1 rainbow trout were inspected for pathogens and were evaluated using an organosomatic index for the IDFG research project dealing with the relative contribution to the creel of trout from three culture facilities.

Anadromous Hatcheries

The Department hatchery facilities and associated satellite release and adult capture stations for steelhead *O. mykiss* and chinook *O. tshawytscha* are funded through Lower Snake River Compensation Plan (LSRCP) and Idaho Power Corporation (IPC) contributions. The anadromous pathologist provides diagnostic and inspection services to chinook and steelhead that are spawned, reared and released from IDFG facilities. The anadromous pathologist also cooperates with other state, private, federal, and tribal programs that could impact Idaho's fishery resource. The annual summary of results for the hatcheries and satellite stations is presented in Appendix 1. In 1999, a total of 136 inspection and diagnostic cases were examined by the EFHL personnel for the Anadromous Hatchery Program.

Clearwater Hatchery and Crooked River, Powell, and Red River Satellite Facilities

Clearwater Hatchery

The Clearwater Hatchery produced steelhead and chinook in conjunction with Crooked River, Powell, and Red River satellite facilities. Dworshak National Fish Hatchery provided steelhead for Clearwater's steelhead program. A total of 10 inspection and diagnostic cases were attributed to this facility. In 1999, disease epizootics occurred only in Rapid River juvenile chinook.

Rapid River spring chinook had a mixed infection of CWD and *Pseudomonas fluorescens*. An application of OTC medicated feed, under standard label directions, corrected the elevated mortality. Viral replicating agents and WD were not found in any of the adult stocks sampled.

The production of juvenile steelhead was virtually free of pathogens during this past brood year (Appendix 1). Steelhead health was exceptional, as no pathogens were detected during most of 1999.

Crooked River Satellite Facility

Only 6,000 juvenile fish were reared (acclimated) at this facility during 1999. All brood fish trapped at this facility were transported to Red River Satellite and spawned at this facility. To facilitate management, the South Fork of the Clearwater River spring chinook was created from combining Crooked River fish and Red River fish.

Preliberation samples for both the spring and fall releases of the BY97 and BY98 (respectively) S.F. Clearwater spring chinook did not detect pathogens except in three of four ELISA samples. Both positives had low ELISA optical densities. The autumn release of the same stock of fish did not detect pathogens except in the ELISA samples for RS. All four pools were low positive optical densities.

Powell Satellite Facility

Juvenile fish were not reared at this facility during 1998. Spring releases of Powell juvenile chinook were examined for preliberation survey. These fish were pathogen free except for ELISA testing for BKD. Three of four five-fish pools were ELISA positive, but all positive pools were of low optical densities.

Powell adult chinook were sampled on five spawning days with neither viral nor *M. cerebralis* detected. Only RS via the ELISA technique was found in these spawning fish.

Red River Satellite Facility

During 1999, juveniles were reared at this facility. No pathogens were detected during fall and spring preliberation sampling, except for *Renibacterium* via ELISA technology. All four five-fish pools of kidneys tested (during both sampling periods) were low optical density positive.

Chinook brood fish trapped at Red River and Crooked River satellites were spawned at Red River in three spawning days and sampled for BKD utilizing ELISA technology. Viral and WD samples were negative. *Renibacterium* was the only pathogen detected during routine brood sampling.

Magic Valley Hatchery

Dworshak, East Fork, Pahsimeroi, and Sawtooth steelhead stocks required 10 inspection trips and one diagnostic trip during 1999 at the Magic Valley Hatchery. Only one diagnostic trip was performed at Magic Valley Hatchery, which found six of eight sampled fish positive for *F. psychrophilum*. Mortalities were not high enough to warrant medicated feed treatment.

The organosomatic index demonstrated very robust fish, with plenty of stored energy. In 1999, IHNV, IPNV and MC, were not found at Magic Valley Hatchery. To curtail any chance of horizontal transmission of etiologic agents a stringent disinfection program has been applied to this hatchery on an annual basis.

McCall Hatchery

Seventeen inspection cases were entered from McCall Hatchery and South Fork Trap. This satellite facility that trapped chinook brood fish for McCall during 1999. Serious pathogens were not detected in McCall Hatchery juvenile chinook during this calendar year. Only ELISA testing, during preliberation, found low optical densities for RS in 4 of 4 five-fish pools sampled in the BY97 chinook.

A benefit of the segregation/culling program is that production fish were not exposed to RS transmitted horizontally from carrier fish. Fish health programs have been successful at McCall Hatchery. The BKD high segregation groups should be reared at lower density, given better feed, and longer and more frequent prophylactic treatments of erythromycin-medicated feed. With improved culture, high BKD segregation groups are capable of producing returning adults.

An extra vitamin pack, added to the normal feed ration, has reduced spring mortality at this facility. Apparently, a nutritional deficiency during early rearing killed 30 fish per raceway per day, for two weeks. The component missing from the diet has not been identified. The "erythrocytic inclusion body syndrome (EIBS)-fortified diet" from Bio-Oregon has stopped this mortality.

The South Fork Trap had 10 accessions logged into the EFHL during 1999. Brood summer chinook were examined for RS, MC, and viral agents. MC and viral agents were not detected. RS was detected by ELISA and the optical density data was utilized to choose which egg lots were to be culled. Egg lots from high optical density females represent the greatest risk for vertical transmission of RS. The egg lots from females with an ELISA optical density of 0.4 or greater were culled from the hatchery program. The EFHL was able to make a culling or segregation program to fit the needs of each IDFG chinook hatchery.

Niagara Springs Hatchery

Fifteen inspection or diagnostic cases were attributed to Niagara Springs Hatchery during 1999. Hells Canyon and Pahsimeroi steelhead stocks were examined and CWD was responsible for most mortality.

In order to improve fish health at Niagara Springs Hatchery, several impediments to fish culture are in the process of being corrected. The early rearing area was expanded and improved reducing suffocation of fry during early rearing. In addition, the spring water supply should be enclosed and the bridge over the spring sealed to keep spillage from fish transport trucks from contaminating the spring. Furthermore, a near complete exclusion of piscivorous birds from the hatchery (by installing netting/wire) has been accomplished. An aggressive immunization program against furunculosis has kept mortalities to this infectious agent to a minimum. Future endeavors should focus on inventory manipulations to maintain densities below stressful levels and to manage around opportunistic pathogens such as *Flavobacterium*.

Oxbow Hatchery

Four inspections were made at Oxbow Hatchery. Steelhead A group (STA) adults were examined during spawning for IHNV, IPNV, RS and WD. Pathogens were not detected at this facility during 1999.

Pahsimeroi Hatchery

Sampling of steelhead and juvenile and adult chinook from Pahsimeroi Hatchery resulted in 18 laboratory accessions to the EFHL in 1999.

Adult steelhead, STA strain along with adult and juvenile summer chinook were sampled for pathogens. No evidence of virus was detected in any group. *Renibacterium* could be detected by ELISA, but typically at low levels. Juvenile chinook became positive for WD when reared on river water, as WD is endemic to this drainage. Signs of clinical WD became apparent during the fall and winter months. The parasite was detected in adult chinook, but not adult steelhead.

Salmonids reared at Pahsimeroi Hatchery have been positive for WD for almost a decade and 1999 was no different. All of the fish were early-reared on well water at Sawtooth Hatchery to avoid early exposure to the parasite MC. Once the fish reached a minimum of seven cm, they were ponded at the upper facility at Pahsimeroi Hatchery. By preliberation sample, these fish had low levels of MC infection by digest. Returning adult steelhead were negative for the parasite, while adult chinook prevalence remained low.

Prophylactic treatments of erythromycin-medicated feed were administered twice, in accordance with Pahsimeroi Hatchery's INAD protocols. *Renibacterium* was found in 4 of 4 five-fish pools by ELISA methods. All positive pools were low optical densities.

Completion of egg incubation and early rearing of fish was done at Sawtooth Hatchery, utilizing specific pathogen free (SPF) water source to reduce exposure to the infective stage of MC. In conjunction with IPC, the hatchery staff and EFHL staff, continue to explore many options to manage around MC infection. A better water source remains the primary focus of this investigation, especially for early rearing. Local springs are being analyzed for volume, water chemistry, temperature, gas saturation and other parameters. WD exposure experiments were implemented to determine seasonality of the parasite. This is an opportunity for IDFG and IPC to work together to overcome this problem.

Rapid River Hatchery

Fourteen inspection cases were generated from Rapid River Hatchery during 1999. The majority of these cases were brood sampled for ELISA-based segregation and culling. The only pathogen found in adult and juvenile examination was RS via ELISA.

External mycosis, "Fuzzy-tail," which had been a perennial problem at this hatchery in the late 80's and early 90's was virtually non-existent. Pooled kidney samples, examined via ELISA methods, had 4 of 4 five-fish pools positive for RS (all low titers) for preliberation samples. EIBS was not found during routine examinations.

The BKD culling and/or a segregation program should be continued to maintain fundamental fish health conditions. Fish should also be fin clipped when water conditions are optimal.

Sawtooth Hatchery

Thirty-five cases were entered that examined juvenile and brood fish at Sawtooth Hatchery in 1999. Juvenile stocks examined at this facility were Sawtooth, Pahsimeroi chinook stocks, and Redfish Lake sockeye. In addition, samples were taken or obtained from adult East Fork Salmon River steelhead and Sawtooth steelhead. No evidence of virus resulted. While BKD antigens were detected in adults of both species, clinical BKD did cause mortality in juvenile chinook this year. A third erythromycin medicated feed treatment was applied to the high BKD segregation group to curtail mortality due to BKD.

Prolonged rearing on well water has resulted in decreased detection of WD in chinook. Currently, WD exposure experiments in progress to determine the seasonality of infection by this parasite. This should provide insight into managing around infection.

The parasite MC was found in 4 of four five-fish pools. It continues to be very important to rear the chinook at Sawtooth Hatchery until at least 75mm in length on SPF well water. Expanding the well-water supply would also help reduce the intensity and prevalence of RS.

Sockeye and Chinook Captive Broodstock

The IDFG facilities at Eagle include both the EFHL and the Eagle Hatchery, which is dedicated to rearing ESA-listed Redfish Lake sockeye salmon *O. nerka* captive broodstock to maturity and the resulting progeny for release. This program began in 1991 and continues to the present. The Stanley Basin Sockeye Technical Oversight Committee (SBSTOC), consisting of cooperators in this Bonneville Power Administration (BPC) funded program, provides technical guidance.

A similar experimental project was initiated in 1995 to include rearing ESA-listed chinook from collections of wild parr from three Idaho rivers. The site selected for the freshwater rearing portion of this project was Eagle Hatchery, which shares grounds with the EFHL. The marine site was the National Marine Fisheries Service's (NMFS) Manchester Marine Laboratory (MML). There is a similar technical oversight committee with this program also. Both the sockeye and chinook programs generate considerable case workload for the EFHL. Program activities for 1999 are reported by species.

Redfish Lake Sockeye Salmon Captive Broodstock

The Eagle Fish Health Laboratory, operated by IDFG, processed samples for diagnostic and inspection purposes from captive broodstock sockeye salmon, production sockeye salmon juveniles at Eagle and Sawtooth hatcheries, and four anadromous adults retained for brood use. Eighty-four laboratory cases were made from these sources during 1999 and involved 247 individual fish examined.

There was no evidence of virus for 247 sockeye examined. This has been consistent with the findings of previous years. No clinical BKD was discovered in 244 fish examined, however, ELISA optical density (OD) values for 29 individuals were above the negative cut-off OD value 0.100. Of these only one was above the low/moderate cut-off OD of 0.200. This indicates that BKD continued to be effectively contained through quarantine efforts. MAS was diagnosed in 5 of 14 cases examined but not a level that required treatment.

Four neoplasms were detected in sockeye captive broodstocks during 1999. This continues the trend observed in previous years in this program at Eagle Hatchery. Two of the tumors were fibromas of liver and kidney. The condition in the kidney involved fibrous, lymphatic, and melanomacrophage cell types. The other two neoplasms were thymic lymphomas with one found in a sexually mature female. Histological examination of the lymphosarcoma demonstrated the tumor was regressing with many foci of fibrocytes of erythroblast origin.

Four of the seven anadromous adult sockeye that returned in 1999 were sampled for pathogens after hatchery spawning. This gave the first opportunity to examine pathogens of anadromous adults originating from the captive broodstock program. There was no evidence of virus, one male had clinical levels of BKD by ELISA, and three of four were found to carry MC, an infection likely contracted as smolts during migration in the Salmon River. These results indicate that this program may have to be prepared for a substantial number of BKD-infected adults in the future. Plans for dealing with this situation should be identical to those successfully used with chinook salmon at IDFG hatcheries: Erythromycin injection of adults, sampling all adults for BKD by ELISA, culling eggs from females whose ELISA OD values exceed 0.4, segregation rearing of progeny based on ELISA OD values of females, and two treatments of progeny with erythromycin.

The SBSTOC recommended applying assessments of smolt quality parameters to sockeye to examine if these results might be used to explain the cause of relatively low levels of volitional migration from lakes in the Sawtooth Basin. Smolt trapping activities were used on two occasions during May, 1999 as the source of fish for examination. General parameters evaluated were proximate body composition, organosomatic index, fish health, smoltification assay, and DNA-based genetic analysis. The intact body was required for proximate analysis, while the other assays were performed on a different set of individuals. Smolts trapped at the Redfish Lake Creek trap were divided into those from the net pen release and those of the direct release based on size-at-outmigration data generated from previous years. Naturally produced smolts were those with intact adipose fins. Additionally, a group of smolts rearing at Sawtooth Hatchery served as a hatchery-reared control and as a prerelease monitoring group as part of the EFHL normal operations. Sample dates were May 5 and 26, 1999 for the BY97 progeny and October 7, 1999 for the BY98 progeny at Sawtooth Hatchery prior to release. In all, 202 fish were sacrificed for this testing. Fish health samples were uniformly negative for virus, BKD, bacterial cultures, EIBS, and MC. A few colonies of motile aeromonads were isolated but were not considered significant. All parameters of the organosomatic index assessment fell within expected values for healthy smolts. Proximate analysis indicated greater total body lipid for groups sampled directly from hatchery culture compared to those of natural origin and those released the previous October. Photographic documentation was used to generate an image of each fish for future reference.

Salmon River Chinook Captive Rearing

Eighty-one separate laboratory accessions were generated at the EFHL during the reporting period. Trends in the detection of infectious disease agents were apparent in the various groups through this close scrutiny. Principle concerns include the presence of BKD, WD, and the presence of the parasitic gill copepod *Salmincola californiensis*. The captive rearing concept results in live, maturing adults being returned to waters of the State of Idaho from NMFS' MML. Two pathogens that do not occur in Idaho have been reported from a commercial marine net pen location in close proximity to the saltwater intake of MML. Consequently, adults which were reared at MML are subjected to extra testing for North American strain of viral hemorrhagic septicemia (NA VHS) and *Piscirickettsia salmonis* (PRS). Neither of these disease agents was detected. A summary of disease concerns is presented below by disease agent.

Naturally produced chinook parr from the Lemhi River have been infested with the parasitic copepod, *Salmincola californiensis* when collected. The life-cycle was completed under culture conditions resulting in a dramatic increase in numbers of parasites, gill tissue necrosis, and host debilitation. Efforts to reduce the parasitism by manual removal had not been effective. Ivermectin delivered by gastric intubation eliminated the parasite with two applications. The handling associated with repeated attempts at manual removal, the degree of gill necrosis, and poor feeding response of the host resulted in mortality to BKD in several captive groups of Lemhi stock during 1999. Our current practice is to administer ivermectin shortly after parr are collected.

Low numbers of BY94 adults of three stocks necessitated pooling these with the remaining BY95 Lemhi stock. This was thought to represent a low risk action since no clinical BKD had occurred in the BY95 Lemhi group for more than a year. This proved not to be the case when BKD caused the loss of nearly all remaining BY94 adults and those of the BY95 Lemhi group. This demonstrated that a cohabitation challenge with BKD could cause the death even of large fish in the same 75-day post-exposure period experienced with juveniles.

Parr of BY98 collected in late summer, 1999 were given an i.p. Injection with erythromycin within a month of collection. A single fish from two of the three groups were demonstrated with clinical BKD shortly after being transported to Eagle Hatchery. We expect continued aggressive therapy and quarantine will be needed to keep this disease under control.

Natural chinook parr/smolts collected from the Lemhi River (five broodyears) were infected with MC. The prevalence of infection has averaged 38 % for the five collected groups. Mortality has not been attributed to the parasite but occasional deformities have been observed. A trial with Fumagillin, an experimental therapeutant, was conducted at the EFHL wet lab in cooperation with the USFWS. Efficacy was not demonstrated in this case.

Emaciation has been due to parr failing to convert to prepared diets following collection from their natural environment. Emaciation appeared to be more prevalent this year than previously, representing about 3 % of those collected. A critique of the procedures employed during the transition period should be made to determine if improvements in the conversion can be made.

IDAHO WILD FISH HEALTH SURVEY

An examination of samples obtained from wild fish in the State of Idaho has been ongoing at the EFHL since the late-1980s. The distribution of MC and the impact of the parasite on wild and hatchery salmonid populations has been a concern of the IDFG since 1987, when it was detected in trout which contracted the infection from Idaho waters. Efforts in 1999 were to assemble infection data from naturally produced salmonids from the Henrys Fork Snake River and Henrys Lake. Staff of the EFHL produced a brochure entitled Whirling Disease and Idaho Trout for Idaho anglers. This has generated considerable interest.

The only new positive locations for MC in Idaho waters were from tributaries of drainages previously found positive. The infection was confirmed with the nested PCR technique. Spores of the neurotropic *Myxobolus spp.* (possibly *M. neurobius*) were detected from numerous sites demonstrating the need for accurate confirmation of which species is present.

The lab shared its fish health database with the USFWS Wild Fish Disease Survey and with Steve Intelmann, a graduate student of Dr. Christine Moffitt, University of Idaho. The graduate student project provided a display of pathogen occurrence in the western states and is an important effort in risk assessment modeling. The database of the lab has extensive fish health observations

made over many years, which is useful at the regional and national level to understand how pathogens operate in wild fish populations. Some of these historic observations are from species that are currently ESA-listed, such as bull trout in Idaho.

TRANSPORT AND IMPORT PERMITS

The EFHL issued transport or import permits for the IDFG Fisheries Bureau and regional offices during 1999. These permits are required when non-aquaculture species are released to public waters of the State of Idaho. Most (51) of these dealt with grass carp (white amur) *Ctenopharyngodon idella* to be used for biological control of aquatic vegetation. The IDFG policy requires that grass carp be certified free of Asian tapeworm and to be sterile triploids. The United States Department of Agriculture Laboratory at Stuttgart, Arkansas generated the certification for both conditions. Other permits were issued to the NMFS for importation of Redfish Lake sockeye smolts for release and adults for volitional spawning; to the USFWS for research activities in the Clearwater River system; to the Kootenai Tribe of Idaho for culture and release actions with endangered Kootenai River white sturgeon *Acipenser transmontanus*; to the Nez Perce Tribe for fish culture activities; and to the University of Idaho Aquaculture Research Institute and Hagerman Fish Culture Experiment Station for research.

REPORTS AND PRESENTATIONS

Reports generated by the EFHL include the Annual Resident Hatchery report for 1999 and the monthly LSRCP and Idaho Power Company facilities disease summary reports. Presentations were given on the fish disease status in Idaho at the anadromous fish management meeting; at the IDFG hatchery managers' meeting; at the Pacific Northwest Fish Health Protection Committee (PNFHPC) semi-annual meetings; the Western Fish Disease Workshop; and Northwest Fish Culture Conference.

The EFHL personnel attended six meetings of the Snake River Sockeye Technical Oversight Committee and the Chinook Captive Rearing Technical Oversight Committee during 1999. We also participated in the Whirling Disease Foundation Symposium, Idaho Chapter of AFS, project review of captive broodstock technology by the NWPPC, NMFS genetics review, and LSRCP status review workshop.

PRODUCTION STUDIES AND SURVEYS TO ENHANCE FISH HEALTH

The wet lab at EFHL was used by IDFG research biologists to evaluate triploid induction techniques with rainbow trout, studies on WD, efficacy of Fumagillin for control of WD with the USFWS, and to investigate control measures for *Salmincola*.

We completed a project to examine the seasonal pattern of infectivity of MC in the South Fork Boise River. The results demonstrated that sentinel rainbow trout became infected during every month of the year even at near freezing water temperatures and at high flows.

For several years, OTC injections have been given to brood rainbow trout at Hayspur Hatchery to inhibit possible vertical transmission of *F. psychrophilum*, which was a problem at hatcheries receiving eggs from Hayspur Hatchery. The primary recipients of these eggs were American Falls, Grace, Nampa, and Hagerman hatcheries. No control groups have been available to test the efficacy of these injections.

We were able to apply the expertise of Dr. Ron Roberts, University of Stirling, Scotland (ret.) who has been on sabbatical leave with the University of Idaho Aquaculture Research Institute. Dr. Roberts suggested several treatments to investigate for the control of *Salmincola*. These studies resulted in the use of ivermectin which was very effective in eliminating the parasite.

Staff of the EFHL have cooperated during 1999 with cohorts in the fish health and fisheries management fields through the forum of the PNFHPC (California, Oregon, Washington, Montana, British Columbia, Alaska); Rocky Plains Fish Health Committee (Arizona, Nebraska, Colorado, Nevada, Utah, New Mexico, North Dakota, and South Dakota); membership in the American Fisheries Society, Fish Health Section; cooperative ESA broodstock efforts (U. S. Fish and Wildlife Service, National Marine Fisheries Service, Shoshone-Bannock, and Nez Perce tribes, Bonneville Power Administration); universities (University of Idaho, Washington State University, University of Washington, Oregon State University, University of California-Davis, College of Southern Idaho); and with the Whirling Disease Foundation.

Staff of the EFHL performed inspections of three private aquaculture facilities that import live fish into Canada. This service was provided free of charge and enhanced export of Idaho aquaculture products.

The EFHL was a co-host of the Western Fish Disease Workshop with Clear Springs Foods, Inc., Rangen, Inc., and the cooperative extension office of the University of Idaho. Three staff attended the continuing education course of the AFS/Fish Health Section held in conjunction with this meeting.

RECOMMENDATIONS

The close proximity of surface waters which have been demonstrated to contain the infectious stage of MC to waters used for fish culture at IDFG hatcheries requires diligence of all culture personnel to ensure that contamination does not occur. This is true for Ashton, Hayspur, Henrys Lake, and MacKay hatcheries.

Cold water disease is the most universally encountered pathogen in IDFG hatcheries, including Hayspur Hatchery broodstocks. Pathologists with the California Department of Fish and Game have demonstrated that the pathogen can be vertically transmitted and that Pen-G can be effective in preventing vertical transmission. We recommend continuing to apply the practices developed in California at Hayspur Hatchery for CWD control. We will try an autogenous CWD vaccine to see if it could also be useful.

Considerable progress has been made in the control of BKD in chinook cultured at all anadromous stations. This has occurred through diligent application of a four-pronged program including injection of all adult females with erythromycin, 100% sampling of females by ELISA, segregation or culling of eggs from females with high ELISA OD values, and two treatments of progeny with erythromycin. This program has been very effective. Clinical BKD in progeny has been restricted to progeny of "high" females and the prevalence of BKD "high" adult females has been gradually decreasing over the last two generations. In general, pre-spawning mortality of all adults has been reduced. This program must continue as the highest fish health priority for chinook hatcheries into the future.

Expansion of the pathogen-free well water at Pahsimeroi Hatchery needs to be given a high priority for funding by Idaho Power Company. The current program by which Pahsimeroi chinook are reared at Sawtooth Hatchery until a length of seven cm has created considerable competition

for well-water between programs. This has been exacerbated by additional demand for eyed steelhead eggs for egg-box programs in cooperation with the Shoshone-Bannock Tribe. Development of additional pathogen-free water at Pahsimeroi Hatchery would alleviate the competition between programs.

The practice of collecting naturally produced parr to initiate broodstocks of the chinook captive rearing program needs to be re-evaluated. Losses to BKD and the handling stress from *Salmincola* control efforts have been unacceptably high and have limited the number of mature adults produced. The Washington Department of Fish and Wildlife has been successful in removing eyed-eggs from naturally-produced redds by hydraulic pumping. This technique should be tried on an experimental basis by IDFG and could avoid health-related problems in this program.

The IDFG has cooperated with the program of the International Association of Fish and Wildlife Agencies for registration of additional therapeutic agents for aquaculture. Progress toward FDA registration has been slow although there has been expansion of label claims for several compounds. Funding from IDFG has come from license sources and is in short supply. We continue to support the participation of IDFG in this process but this participation will need to be scrutinized annually for measured progress toward realistic goals of registrations by FDA.

ACKNOWLEDGEMENTS

The staff of the EFHL would like to express our appreciation to the Lower Snake River Compensation Plan, Idaho Power Company, Sport Fish Restoration, and the sportsmen of the State of Idaho for the financial support of our programs. We also greatly appreciate the assistance provided by the fish culture personnel of all the IDFG hatcheries in obtaining samples when our staff could not be present. This has been a big help and has helped to keep costs down. The cooperative INAD programs of the USFWS and University of Idaho have allowed access to therapeutic compounds while they are in the process of registration by the FDA. The help of the hatchery staffs in the INAD process has likewise been appreciated.

APPENDICES



FISH HEALTH SUMMARY REPORT 1999

Idaho Department of Fish and Game
Eagle Fish Health Laboratory

1/1/99 TO 12/31/99

LOCATION		Class	Species	Accession	Sample Date	ExamType										Diagnoses	Page 1
BroodYr	Stock					BHN	PH	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
1 PANHANDLE REGION																	
WILD	S.F. COUER D'ALENE	D	BROOK TROUT	99-237	7/23/99	-	-									WILD FISH	NO PATHOGENS DETECTED; VIRO 0/51, WHD-DIGEST 0/51 PCR-WHD 0/5
WILD	S.F. COUER D'ALENE		CUTTHROAT TROUT	99-238	7/23/99	-	-									WILD FISH	NO PATHOGENS DETECTED; VIRO 0/2, WHD-DIGEST 0/2 PCR 0/2
WILD	LITTLE N.F.K. S.F. COUER D'ALENE RIVER		WESTSLOPE CUTTHROAT TROUT	99-239	7/23/99	-	-									WILD FISH	NO PATHOGENS DETECTED; VIRO 0/2, WHD-DIGEST 0/2 PCR 0/2
BROOD	MEADOW CREEK (CANADA)		KOKANEE, EARLY SPAWN	99-365	9/23/99											INSPECTION	NO PATHOGENS DETECTED; WHD-DIGEST 0/61
2 CLEARWATER REGION																	
WILD	FISH CREEK; LOCHSA RIVER	D	STEELHEAD	99-440	10/15/99											WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/1
3 SOUTHWEST REGION																	
WILD	ARROWROCK RESERVOIR	D	BULL TROUT	99-043	3/9/99			+								RESEARCH	RS; FAT 0/17, ELISA 17/17 (7 LOW, 10 HIGH), WHD-DIGEST 0/17
FERAL	UNKNOWN		CONVICT CICHLID	99-147	5/4/99	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, BACTE 0/2.
WILD	SNAKE RIVER		WHITE STURGEON	99-186	5/24/99											WILD FISH	NO PATHOGENS DETECTED; HISTO 0/15 FOR INDICATIONS OF WSIV
BROOD	DEAD WOOD RESERVOIR		KOKANEE, EARLY SPAWN	99-322	9/13/99	-	-		+							INSPECTION	RS; VIRO 0/60, ELISA 8/12X5, 7 LOW, 1 MOD), WHD-DIGEST 0/60
WILD	W.F. CHAMBERLIN CREEK		STEELHEAD	99-439A	8/5/99											WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/1
WILD	CHAMBERLIN CREEK		STEELHEAD	99-439B	8/6/99											WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/4
WILD	MARYS CREEK		SUCKER	99-475	6/12/99											RESEARCH	RS; VIRO 0/3, ELISA 3/3 NEGATIVE CONFIRMATION PCR, BACTE 0/3
WILD	MARYS CREEK		REDSIDE SHINNER	99-476	6/12/99	-	-			-						WILD FISH	RS; VIRO 0/5, ELISA 5/5 NEGATIVE CONFIRMATION PCR, BACTE 0/5
3.5 MCCALL SUBREGION																	
WILD	LAKE CREEK	D	CHINOOK SALMON	99-360	10/5/99											RESEARCH	NO PATHOGENS DETECTED; WHD-DIGEST 0/19
WILD	SECESH		CHINOOK SALMON	99-361	10/5/99											RESEARCH	NO PATHOGENS DETECTED; WHD-DIGEST 0/24
WILD	SECESH		CHINOOK SALMON	99-362	10/5/99											RESEARCH	NO PATHOGENS DETECTED; WHD-DIGEST 0/8

LOCATION		Class		Sample		Diagnoses										Page 2	
BroodYr	Stock	Species	Accession	Date	PH	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ExamType	Diagnoses	
1999	FERAL	TILAPIA	99-363	10/5/99	-	-	-	-	-	-	-	-	-	-	INSPECTION	PSEUDOMONAS; VIRO 0/20, FAT 0/20, PSEUDOMONAS FLUORESCENS 9/20	
WILD	CASCADE RESERVOIR	YELLOW PERCH	99-364	10/5/99	-	-	-	-	-	-	-	+	-	-	DIAGNOSTIC	MAS, MULTIPLE PARASITISM; VIRO 0/20, AEROMONAS SOBRIA 12/20, NEASCUS ELIPTICUS 18/22 (11 low, 7 heavy), GYRODACTYLUS 7/10, LIGULA 1/22, TRICHODINA 4/10, PRECOCIAL MALES 6/22	
4 MAGIC VALLEY REGION																	
WILD	COVE CREEK	BROOK TROUT	00-472	9/13/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/15, ELISA 13/15 NEGATIVE CONFIRMATION PCR, BACTE 0/15, WHD-DIGEST 0/15, CSH 0/15	
WILD	E.F. JARBIDGE RIVER	RED BAND TROUT	99-457	11/30/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	MYXOBOLUS; WHD-DIGEST 0/21 HISTO 0/5 PCR 0/5, MYXOBOLUS-DIGEST 1/4 (x5, SPORES LARGE) HISTO 0/5	
WILD	SUMMIT CREEK	BROOK TROUT	99-460	9/8/99	-	-	-	-	-	-	+	-	-	-	WILD FISH	RS, CWD; VIRO 0/22, ELISA 15/22 PCR CONFIRMED, Flavobacterium psychrophilum 11/22, WHD-DIGEST 0/22, CSH 0/22	
WILD	EAST FORK BAKER CREEK	BROOK TROUT	99-461	9/9/99	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/29, ELISA 17/29 PCR CONFIRMED, BACTE 0/29, WHD-DIGEST 0/29, CSH 0/29	
WILD	COYOTE CREEK	BROOK TROUT	99-465	9/10/99	-	-	-	-	-	-	-	-	+	-	WILD FISH	WHD, RS; VIRO 0/6, ELISA 5/6 NEGATIVE CONFIRMED PCR, BACTE 0/6, WHD-DIGEST 1/1 POSITIVE BY PCR, CSH 0/6	
WILD	COYOTE CREEK	RAINBOW TROUT	99-466	9/10/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1	
WILD	COYOTE CREEK	SCULPIN	99-467	9/10/99	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS; ELISA 1/1 PCR CONFIRMED, BACTE 0/2, WHD-DIGEST 0/2	
WILD	HORSE CREEK	BROOK TROUT	99-468	9/10/99	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/17, ELISA 13/17 PCR NEGATIVE CONFIRMATION, BACTE 0/17, WHD-DIGEST 0/17, CSH 0/17	
WILD	SPRING CREEK	BROOK TROUT	99-469	9/10/99	-	-	-	+	-	-	-	+	-	-	WILD FISH	RS, CWD; VIRO 0/10, ELISA 6/10 PCR CONFIRMED, Flavobacterium psychrophilum 5/10, WHD-DIGEST 0/10, CSH 0/10	
WILD	SPRING CREEK	SCULPIN	99-470	9/10/99	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS; ELISA 2/2 NEGATIVE CONFIRMED PCR, BACTE 0/3, WHD-DIGEST 0/3	
WILD	QUIGLEY CREEK	BROOK TROUT	99-471	9/12/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/25, ELISA 25/25 PCR CONFIRMED, BACTE 0/25, WHD-DIGEST 0/37, CSH 0/25	
WILD	COVE CREEK	BROOK TROUT	99-472	9/13/99	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/15, ELISA 13/15 NEGATIVE CONFIRMATION PCR, BACTE 0/15, WHD-DIGEST 0/15, CSH 0/15	
WILD	COVE CREEK	RAINBOW TROUT	99-473	9/13/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	RS; VIRO 0/10, ELISA 19/24 NEGATIVE CONFIRMATION PCR, BACTE 0/10, WHD-DIGEST 0/24, CSH 0/10	
WILD	GOOSE CREEK	SUCKER	99-477	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/8, FAT 0/8, ELISA 0/8, KDM2 MEDIUM 0/8, BACTE 0/8, CSH 0/8	
WILD	GOOSE CREEK	YELLOW PERCH	99-478	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/4, DFAT 0/4, ELISA 0/4, DKMS MEDIUM 0/4, BACTE 0/4	
WILD	GOOSE CREEK	SCULPIN	99-479	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/8, ELISA 0/2, BACTE 0/2, WHD-DIGEST 0/2	
WILD	GOOSE CREEK	LONGNOSE DACE	99-480	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/8, DFAT 0/8, ELISA 0/8, KDM2 MEDIUM 0/8, BACTE 0/8	

LOCATION		Class		Sample		Diagnoses									
BroodYr	Stock	Species	Accession	Date	BN	PN	NAVIS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ExamType
WILD	GOOSE CREEK	RAINBOW TROUT	99-481	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH
WILD	GOOSE CREEK	REDSIDE SHINNER	99-482	6/18/99	-	-	-	-	-	-	-	-	-	-	WILD FISH
6 UPPER SNAKE REGION															
WILD			99-519	8/4/99											
WILD	S.F. SNAKE RIVER	RBT & RAC HYBRIDS	99-034	2/17/99									+		RESEARCH
WILD	HENRY'S FORK - LAST CHANCE	RAINBOW TROUT	99-408	11/15/99									-		WILD FISH
WILD	HENRY'S FORK - BOX CANYON	RAINBOW TROUT	99-409	11/15/99									-		WILD FISH
WILD	HENRY'S FORK - STONE BRIDGE SECT	RAINBOW TROUT	99-410	11/15/99									+		WILD FISH
WILD	HENRY'S FORK - BUFFALO RIVER	RAINBOW TROUT	99-411	11/15/99									-		WILD FISH
WILD	TETON RIVER - WILFORD CANAL	CUTTHROAT TROUT	99-412	11/15/99									+		WILD FISH
WILD	PALISADES CREEK	RAINBOW X CUTTHROAT TROUT HYBRID	99-413	11/15/99									-		WILD FISH
WILD	HENRY'S FORK - BOX CANYON	RAINBOW TROUT	99-414	11/15/99									-		WILD FISH
WILD	HENRY'S FORK - ST. ANTHONY TO SALEM BRIDGE	RAINBOW X CUTTHROAT TROUT HYBRID	99-415	11/15/99									+		WILD FISH
WILD	S.F. SNAKE RIVER	BROWN TROUT	99-416	11/15/99									-		WILD FISH
WILD	S.F. SNAKE RIVER	BROWN TROUT	99-417	11/15/99									-		WILD FISH
WILD	BONEWILLOW CREEK	BROWN TROUT	99-418	11/15/99									-		WILD FISH
WILD	ANTELOPE CREEK	BROOK TROUT	99-506	8/3/99									-		WILD FISH
WILD	ANTELOPE CREEK	RAINBOW TROUT	99-507	8/3/99									-		WILD FISH
WILD	ANTELOPE CREEK	SCULPIN	99-508	8/3/99									-		WILD FISH
WILD	BIG LOST RIVER	SCULPIN	99-511	8/3/99									-		WILD FISH
WILD	STAR HOPE CREEK	BROOK TROUT	99-512	8/4/99									-		WILD FISH

NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, KOM2 MEDIUM 0/1, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1

NO PATHOGENS DETECTED; VIRO 0/5, DFAT 0/5, ELISA 0/5, KOM2 MEDIUM, BACTE 0/5, CSH 0/5

WHD; MYXOBOLUS CEREBRALIS-DIGEST 11/20

NO PATHOGENS DETECTED; WHD-DIGEST 0/60

NO PATHOGENS DETECTED; WHD-DIGEST 0/60

WHD; MYXOBOLUS CEREBRALIS-DIGEST 9/10 (x5) HISTO 1/6

NO PATHOGENS DETECTED; WHD-DIGEST 0/71

WHD; MYXOBOLUS CEREBRALIS-DIGEST 1/1 HISTO 1/1

HENNEGUYA; WHD-DIGEST 0/1, HENNEGUYA SPP. 1/1

NO PATHOGENS DETECTED; WHD-DIGEST 0/55

WHD; MYXOBOLUS CEREBRALIS-DIGEST 1/1(X2) HISTO 1/2

NO PATHOGENS DETECTED; WHD-DIGEST 0/1(ABOVE FALL CREEK)

NO PATHOGENS DETECTED; WHD-DIGEST 0/1 (CORNER CANYON)

NO PATHOGENS DETECTED; WHD-DIGEST 0/1

RS; VIRO 0/7, ELISA 7/7 PCR CONFIRMED, BACTE 0/7, WHD-DIGEST 0/7, CSH 0/7

NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1

RS; ELISA 6/6 NEGATIVE CONFIRMATION PCR, BACTE 0/6, WHD-DIGEST 0/6

RS; ELISA 4/4 PCR CONFIRMED, BACTE 0/4, WHD-DIGEST 0/4

RS; VIRO 0/3, ELISA 3/3 NEGATIVE CONFIRMATION PCR, BACTE 0/3, WHD-DIGEST 0/3, CSH 0/3

LOCATION		Class		Sample		Diagnoses										Page 4	
BroodYr	Stock	Species	Accession	Date	INR	IPN	NAVHS	BKO	FUR	ERM	CWD	WAS	WHD	CSH	ExamType		
WILD	CORREL CREEK	RAINBOW TROUT	99-513	8/4/99												NO PATHOGENS DETECTED; ELISA 06, BACTE 06, WHD-DIGEST 06	
			99-514	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, MYXOBOLUS spp.; VIRO 0/3, ELISA 3/3 PCR CONFIRMED, BACTE 3/3, WHD-DIGEST 1/1 NEGATIVE CONFIRMATION PCR Myxobolus spp., CSH 0/3	
WILD	CORRAL CREEK	BROOK TROUT	99-515	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, WHD; VIRO 0/9, ELISA 9/9 PCR CONFIRMED, BACTE 0/9, WHD-DIGEST 1/1 Myxobolus cerebralis 1/1 PCR CONFIRMED, CSH 0/9	
WILD	CORRAL CREEK	SCULPIN	99-516	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, ELISA 3/3 PCR CONFIRMED, BACTE 3/3, WHD-DIGEST 0/3	
WILD	MULDOON CREEK	BROOK TROUT	99-517	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/8, ELISA 3/3 NEGATIVE CONFIRMATION PCR, BACTE 0/8, WHD-DIGEST 0/8, CSH 0/8	
WILD	MULDOON CREEK	RAINBOW TROUT	99-518	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/1, ELISA 1/1 PCR CONFIRMED, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1	
WILD	WILDHORSE CREEK	BROOK TROUT	99-519	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/1, ELISA 0/1 PCR CONFIRMED, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1	
WILD	WILDHORSE CREEK	SCULPIN	99-520	8/4/99												RS, ELISA 11/11 PCR CONFIRMED, BACTE 0/11, WHD-DIGEST 0/11	
WILD	STAR HOPE CREEK	RAINBOW TROUT	99-521	8/4/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/1, ELISA 0/1 NEGATIVE CONFIRMATION PCR, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1	
WILD	JESSE CREEK	BROOK TROUT	99-522	8/7/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/9, ELISA 9/9 PCR CONFIRMED, BACTE 0/9, WHD-DIGEST 0/9, CSH 0/9	
WILD	TWIN CREEK	BROOK TROUT	99-523	8/7/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/5, ELISA 5/5 PCR CONFIRMED, BACTE 0/5, WHD-DIGEST 0/5, CSH 0/5	
WILD	TWIN CREEK	RAINBOW TROUT	99-524	8/7/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/2, ELISA 2/2 PCR CONFIRMED, BACTE 0/2, WHD-DIGEST 0/2, CSH 0/2	
WILD	SAWTELL CREEK	BROOK TROUT	99-525	8/7/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/14, ELISA 13/14 PCR CONFIRMED, BACTE 0/14, WHD-DIGEST 0/14, CSH 0/14	
WILD	WILLOW CREEK	BROOK TROUT	99-526	8/6/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/10, ELISA 10/10 PCR CONFIRMED, BACTE 0/10, WHD-DIGEST 0/10, CSH 0/10	
WILD	WILLOW CREEK	RAINBOW TROUT	99-527	8/6/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/2, ELISA 2/2 NEGATIVE CONFIRMATION PCR, BACTE 0/2, WHD-DIGEST 0/2, CSH 0/2	
WILD	WILLOW CREEK	SCULPIN	99-528	8/6/99												RS, ELISA 5/5 NEGATIVE CONFIRMATION PCR, BACTE 0/5, WHD-DIGEST 0/5	
WILD	WEST FORK MILL CREEK	BROOK TROUT	99-529	8/6/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/20, ELISA 20/20 PCR CONFIRMED, BACTE 0/20, WHD-DIGEST 0/20, CSH 0/20	
WILD	WEST FORK MILL CREEK	SCULPIN	99-530	8/6/99												RS, ELISA 3/3 NEGATIVE CONFIRMATION PCR, BACTE 0/3, WHD-DIGEST 0/3	
WILD	WEST FORK MILL CREEK	SPECKLED DACE	99-531	8/6/99	-	-	-	-	-	-	-	-	-	-		RS, VIRO 0/1, ELISA 1/1 NEGATIVE CONFIRMATION PCR, BACTE 0/1, WHD-DIGEST 0/1, CSH 0/1	
WILD	WEST FORK MILL CREEK	RED SIDE SHINER	99-532	8/6/99												RS, ELISA 10/10 NEGATIVE CONFIRMATION PCR, BACTE 0/10, WHD-DIGEST 0/10	

LOCATION		Class		Sample Date	Accession	Species	Diagnoses										ExamType	Diagnoses
BroodYr	Stock						WH	PN	NAHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
WILD	M.F. SALMON RVR; SOLDIER CK	WESTSLOPE CUTTHROAT TROUT	99-256	8/7/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/13.
WILD	M.F. SALMON RVR; ELKHORN CK	WESTSLOPE CUTTHROAT TROUT	99-257	8/8/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/14
WILD	M.F. SALMON RVR; PUNGO CK	WESTSLOPE CUTTHROAT TROUT	99-258	8/8/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/10
WILD	M.F. SALMON RVR; CACHE CK	WESTSLOPE CUTTHROAT TROUT	99-259	8/9/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/8
WILD	M.F. SALMON RVR; YELLOW JACKET (LOWER)	RAINBOW TROUT	99-260	8/10/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/13
WILD	EAST FORK SALMON RIVER	CUTTHROAT TROUT	99-380	10/26/99													DIAGNOSTIC	NO PATHOGENS DETECTED; WHD-DIGEST 0/1
WILD	ALTURAS LAKE	KOKANEE	99-458	12/29/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/55 (SAMPLE DATE 9/23/99)
WILD	REDFISH LAKE	KOKANEE	99-459	12/29/99													WILD FISH	NO PATHOGENS DETECTED; WHD-DIGEST 0/18 (SAMPLE DATE 9/21/99)
WILD	SMILEY CREEK	BROOK TROUT	99-509	8/3/99			-	-	-	-	-	-	-	-	+	-	WILD FISH	RS, WHD; VIRO 0/5, ELISA 5/5 PCR CONFIRMED, BACTE 0/5, WHD-DIGEST 1/1 PCR CONFIRMED, CSH 0/5
WILD	BIG LOST RIVER	BROOK TROUT	99-510	8/3/99			-	-	-	-	-	-	-	-	+	-	WILD FISH	RS, WHD; VIRO 0/19, ELISA 19/19 NEGATIVE CONFIRMATION PCR, BACTE 0/19, WHD-DIGEST 1/1, CSH
AMERICAN FALLS HATCHERY																		
1998	TROUT LODGE	KAMLOOPS RBT	99-129	4/28/99			-	-					-	+	-		INSPECTION	CWD (carrier), VIRO 0/15, FLAVOBACTERIUM PSYCHROPHILUM 2/16
CABINET GORGE HATCHERY																		
1998	BIG CREEK	FALL CHINOOK SALMON	99-166	5/12/99			-	-					-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, FAT 0/60, BACTE 0/4, WHD-DIGEST 0/20
1998	MEADOW CREEK (CANADA)	KOKANEE	99-167	5/12/99			-	-					-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, FAT 0/60, BACTE 0/4
BROOD	CLARK FORK RIVER	KOKANEE, LATE SPAWN	99-445	12/14/99			-	-		+						-	INSPECTION	RS, VIRO 0/60, FAT 0/60, ELISA 3/12 (x5, LOW), WHD-DIGEST 0/60
BROOD	SULLIVAN SPRINGS	KOKANEE, LATE SPAWN	99-446	12/15/99			-	-		+						-	INSPECTION	RS, VIRO 0/60, FAT 0/60, ELISA 2/12 (x5, LOW) WHD-DIGEST 0/60
CLARK FORK HATCHERY																		
1998	HAYSPUR	RAINBOW TROUT - TRIPLOID	99-163	5/11/99			-	-					-	-	-	-	DIAGNOSTIC	BGD, BACTEREMIA, VIRO 0/10, BGD 3/3, PSEUDOMONAS PUTIDA 1/4
BROOD	CLARK FORK HATCHERY	WESTSLOPE CUTTHROAT TROUT	99-164	5/11/99			-	-		+						-	INSPECTION	BKD, VIRO 0/115, FAT 1/15, WHD-DIGEST 0/15
1998	CLARK FORK HATCHERY	WESTSLOPE CUTTHROAT TROUT	99-447	12/14/99			-	-					-	-	+	-	INSPECTION	CWD, VIRO 0/20, FAT 0/12, FLAVOBACTERIUM PSYCHROPHILUM 1/4, WHD-DIGEST 0/20
1999	CLARK FORK HATCHERY	WESTSLOPE CUTTHROAT TROUT	99-448	12/14/99			-	-					-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/12, BACTE 0/4

LOCATION		Class		Sample		ExamType										Diagnoses	
BroodYr	Stock	Species	Accession	Date	ERM	PN	IN	NA	VS	BKD	FUR	ERM	CWD	MAS	WHO	CSH	
1998	HAYSPUR	RAINBOW TROUT	99-449	12/14/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/20, FAT 0/12, BACTE 0/4, WHD-DIGEST 0/20
CLEARWATER HATCHERY																	
1997	RAPID RIVER	SPRING CHINOOK SALMON	99-012	1/22/99	-	-	-	-	-	-	-	-	-	-	-	-	RS, CWD, PSEUDOMONAS; FAT 0/20, ELISA 2/4 (x5, VERY LOW), FLAVOBACTERIUM PSYCHROPHILUM 12/12, PSEUDOMONAS FLUORESCENS 11/12
1998	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-091	4/8/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/20, FAT 0/20, WHD-DIGEST 0/20
1999	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-222	7/15/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, VIRO 0/10, AEROMONAS CAVIAE 1/8
1998	HAYSPUR	RAINBOW TROUT	99-223	7/15/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, CWD, VIRO 0/4, AEROMONAS HYDROPHILA 2/4, FLAVOBACTERIUM PSYCHROPHILUM 1/4
1999	HAYSPUR	RAINBOW TROUT-TRIPLOID	99-297	9/1/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, AEROMONAS HYDROPHILA 8/8
1999	HAYSPUR	RAINBOW TROUT	99-298	9/1/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, CWD, AEROMONAS SOBRIA 4/6, FLAVOBACTERIUM PSYCHROPHILUM 3/6
1999	HAYSPUR	RAINBOW TROUT	99-368	10/12/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, CWD, BGD; VIRO 0/6, AEROMONAS HYDROPHILA 6/6, FLAVOBACTERIUM PSYCHROPHILUM 3/6, BGD 1/6
1998	RAPID RIVER-HBKD	SPRING CHINOOK SALMON	99-369	10/12/99	-	-	-	-	-	-	-	-	-	-	-	-	MAS, EXTERNAL MYCOSIS; VIRO 0/9, FAT 0/9, SPHINGOMONAS PAUCIMOBILIS 2/8, AEROMONAS SOBRIA 1/8
1998	RAPID RIVER	SPRING CHINOOK SALMON	99-438	12/10/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, FAT 0/22
CROOKED RIVER SATELLITE																	
1997	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-088	4/7/99	-	-	-	-	-	-	-	-	-	-	-	-	RS, VIRO 0/20, FAT 0/20, ELISA 3/4(x5), WHD-DIGEST 0/20
1998	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-348	9/26/99	-	-	-	-	-	-	-	-	-	-	-	-	RS, VIRO 0/20, FAT 0/20, ELISA 3/4(x5), WHD-DIGEST 0/20
DWORSHAK NFH																	
BROOD	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-046	3/9/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/31
BROOD	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-053	3/16/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/40
BROOD	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-063	3/23/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/40
BROOD	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP	99-075	3/30/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/66
EAGLE HATCHERY																	
BY97	REDFISH LAKE	SOCKEYE SALMON	99-001	1/2/99	-	-	-	-	-	-	-	-	-	-	-	-	RS, VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D.=0.119)
BY96	REDFISH LAKE	SOCKEYE SALMON	99-004	1/6/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/1, FAT 0/1, ELISA 0/1
BY97	LEMHI RIVER	CHINOOK CAPTIVE	99-005	1/9/99	-	-	-	-	-	-	-	-	-	-	-	-	RS, WHD, VIRO 0/1, FAT 0/4, ELISA 1/4 (O.D.=0.102), MYXOBOLUS CEREBRALIS-DIGEST 1/4
BY97	W.F. YANKEE FORK	CHINOOK CAPTIVE	99-006	1/9/99	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, VIRO 0/1, FAT 0/1, ELISA 0/1, WHD-DIGEST 0/1
BY97	LEMHI RIVER	CHINOOK CAPTIVE	99-007	1/10/99	-	-	-	-	-	-	-	-	-	-	-	-	WHD, VIRO 0/1, FAT 0/1, ELISA 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1

LOCATION		Class		Accession	Sample Date	ExamType													Diagnoses
BroodYr	Stock	Species	HN			FN	NAHVS	BKD	FUR	ERM	CWD	MAS	WHD	CSH					
BY96	REDFISH LAKE	SOCKEYE SALMON	99-009	1/22/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-013	1/26/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D.=0.105)		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-019	2/1/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY97	LEMHI RIVER	CHINOOK CAPTIVE	99-020	2/1/99	-	-	-	-	-	-	-	-	+	-	-	DIAGNOSTIC	WHD; MYXOBOLUS CEREBRALIS-DIGEST 1/1		
BY97	LEMHI RIVER	CHINOOK CAPTIVE	99-021	2/1/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	WHD; MYXOBOLUS CEREBRALIS-DIGEST 1/1		
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-035	2/18/99	-	-	+	-	-	-	-	-	+	-	-	DIAGNOSTIC	BKD, WHD; VIRO 0/1, FAT 1/1 (TNTC), MYXOBOLUS CEREBRALIS-DIGEST 1/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-038	2/27/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/30		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-041	3/5/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-042	5/7/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-045	3/9/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	W.F. YANKEE FORK	CHINOOK CAPTIVE	99-047	3/11/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	BKD, VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-049	3/15/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3, FAT 0/3		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-051	3/16/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-052	3/18/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.155), WHD-DIGEST 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-058	3/20/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	W.F. YANKEE FORK	CHINOOK CAPTIVE	99-059	3/21/99	-	-	+	-	-	-	-	-	+	-	-	DIAGNOSTIC	BKD, MYXOBOLUS; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1 HISTO 0/1 PCR 0/1, MYXOBOLUS-DIGEST 1/1 HISTO 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-061	3/24/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY97	LEMHI RIVER	CHINOOK CAPTIVE	99-073	3/31/99	-	-	+	-	-	-	-	-	+	-	-	DIAGNOSTIC	RS, WHD; VIRO 0/1, FAT 0/1, ELISA (O.D. = 0.113), MYXOBOLUS CEREBRALIS-DIGEST 1/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-074	3/31/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY94	E.F. YANKEE FORK RIVER	CHINOOK CAPTIVE	99-076	4/1/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 0/1, ELISA (O.D. = 0.181), WHD-DIGEST 0/1		
BY98	REDFISH LAKE	SOCKEYE SALMON	99-079	4/5/99	-	-	-	-	-	-	-	+	-	-	-	DIAGNOSTIC	MAS; VIRO 0/1, FAT 0/1, AEROMONAS HYDROPHILA 1/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-101	4/15/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-105	4/19/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-106	4/19/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY96	REDFISH LAKE	SOCKEYE SALMON	99-109	4/20/99	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1		
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	99-118	4/23/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.154), WHD-DIGEST 0/1		
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-119	4/24/99	-	-	+	-	-	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1		

Page 7

BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-120	4/27/99	-	-	+											DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. 0.675), WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON	99-128	2/28/99	-	-	-											DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1
BY96	W.F. YANKEE FORK	CHINOOK CAPTIVE	99-130	4/29/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 0/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-135	5/1/99	-	-	+											DIAGNOSTIC	BKD, WHD; VIRO 0/1, FAT 1/1 (TNTC), MYXOBOLUS CEREBRALIS-DIGEST 1/1
BY97	W.F. YANKEE FORK	CHINOOK CAPTIVE	99-136	5/1/99	-	-	+											DIAGNOSTIC	RS, WHD; VIRO 0/1, FAT 1/1, WHD-DIGEST 1/1 PCR 1/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-137	5/3/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY97	REDFISH LAKE	SOCKEYE SALMON	99-138	5/4/99	-	-	-											DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, EIBS 0/1, FAT 0/1, ELISA 0/1, BACTE 0/1, WHD-DIGEST 0/1
BY97	REDFISH LAKE	SOCKEYE SALMON	99-139	5/4/99	-	-	-											INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, EIBS 0/5, FAT 0/5, ELISA 0/5, BACTE 0/5, WHD 0/5
WILD-97	REDFISH LAKE	SOCKEYE SALMON	99-140A	5/4/99	-	-	+											INSPECTION	RS; VIRO 0/3, EIBS 0/3, FAT 0/3, ELISA 1/1(x4, OD = 0.136), BACTE 0/3, WHD-DIGEST 0/3
WILD-97	REDFISH LAKE	CHINOOK SALMON	99-140B	5/4/99	-	-	+											INSPECTION	RS; VIRO 0/1, EIBS 0/1, FAT 0/1, ELISA 1/1(x4, OD = 0.136), BACTE 0/1, WHD-DIGEST 0/1
BY97	SAWTOOTH	SOCKEYE SALMON	99-141	5/4/99	-	-	-											INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, EIBS 0/20, FAT 0/19, ELISA 0/20, BACTE 0/20, WHD-DIGEST 0/20
BY97	ALTURAS	SOCKEYE SALMON	99-143	5/4/99	-	-	+											INSPECTION	RS; VIRO 0/2, EIBS 0/2, FAT 0/2, ELISA 1/1(X3, OD = 0.150), BACTE 0/2, WHD-DIGEST 0/3
BY97	ALTURAS	SOCKEYE SALMON	99-144	5/4/99	-	-	-											INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, EIBS 0/1, FAT 0/1, ELISA 0/1, BACTE 0/1, WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON	99-148	5/5/99	-	-	-											DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-149	5/5/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-151	5/5/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-152	5/6/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-157	5/6/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 2/2 (TNTC), WHD-DIGEST 0/2
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-158	5/7/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-159	5/7/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON	99-160	5/10/99	-	-	-											DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-161	5/10/99	-	-	+											DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-168	5/16/99	-	-	+											DIAGNOSTIC	BKD, WHD; VIRO 0/1, FAT 1/1 (TNTC), MYXOBOLUS CEREBRALIS-DIGEST 1/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	99-169	5/17/99	-	-	+											DIAGNOSTIC	BKD, WHD; VIRO 0/2, FAT 2/2 (TNTC), MYXOBOLUS CEREBRALIS-DIGEST 1/2

LOCATION		Class		Sample Date	Accession	Diagnoses										ExamType	Diagnoses
BroodYr	Stock	Species				HN	PN	MAHS	BKD	FUR	ERM	CWD	MAS	WHO	CSH		
BY95	LEMHI RIVER	CHINOOK CAPTIVE		5/19/99	99-172	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD, PSEUDOMONAS; VIRO 0/1, FAT 1/1 (TNTC), PSEUDOMONAS FLUORESCENS 1/1, WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE		5/20/99	99-173	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD, VIRO 0/2, FAT 2/2 (TNTC), WHD-DIGEST 0/2
BY95	LEMHI RIVER	CHINOOK CAPTIVE		5/25/99	99-175	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD, VIRO 0/3, FAT 3/3 (2 TNTC), WHD-DIGEST 0/3
BY97	REDFISH LAKE	SOCKEYE SALMON		5/26/99	99-176	-	-	-	+	-	-	-	-	-	-	INSPECTION	RS, VIRO 0/10, FAT 0/8, ELISA 2/2(XS, ODS = 0.117, 0.166), BACTE 0/10, WHD-DIGEST 0/10
BY97	REDFISH LAKE	SOCKEYE SALMON		5/26/99	99-177	-	-	-	+	-	-	-	-	-	-	INSPECTION	RS, PSEUDOMONAS; VIRO 0/10, EIBS 0/10, FAT 0/10, ELISA 2/2(XS, ODS = 0.113, 0.224), PSEUDOMONAS MALLEI 1/8, WHD-DIGEST 0/10
BY97	REDFISH LAKE	SOCKEYE SALMON		5/26/99	99-178	-	-	-	+	-	-	-	-	-	-	WILD FISH	RS, PSEUDOMONAS; VIRO 0/6, EIBS 0/6, FAT 0/6, ELISA 1/2(X3, O.D.=0.105), PSEUDOMONAS SPP. 1/6, WHD-DIGEST 0/6
BY97	ALTURAS LAKE	SOCKEYE SALMON		5/27/99	99-179	-	-	-	-	-	-	-	-	-	-	INSPECTION	BACTEREMIA; VIRO 0/10, EIBS 0/10, FAT 0/10, ELISA 0/10, CHRYSEOMONAS LUTEOLA 2/10, WHD-DIGEST 0/10
BY97	ALTURAS LAKE	SOCKEYE SALMON		5/27/99	99-180	-	-	-	-	-	-	-	-	-	-	WILD FISH	NO PATHOGENS DETECTED; VIRO 0/4, EIBS 0/4, FAT 0/4, ELISA 0/4, BACTE 0/8, WHD-DIGEST 0/4
BY95	LEMHI RIVER	CHINOOK CAPTIVE		5/30/99	99-184	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON		6/1/99	99-185	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, FAT 0/2
BY96	REDFISH LAKE	SOCKEYE SALMON		6/3/99	99-188	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/4, FAT 0/4
BY96	REDFISH LAKE	SOCKEYE SALMON		6/3/99	99-189	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON		6/7/99	99-190	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, FAT 0/2
BY95	LEMHI RIVER	CHINOOK CAPTIVE		6/9/99	99-192	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.117), WHD-DIGEST 0/1
BY94	EAST FORK SALMON RIVER	CHINOOK SALMON		6/10/99	99-193	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.649), WHD-DIGEST 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE		6/12/99	99-194	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 1/1, WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON		6/14/99	99-195	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, FAT 0/2
BY95	LEMHI RIVER	CHINOOK CAPTIVE		6/19/99	99-199	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	RS; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.165), WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON		6/21/99	99-200	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1, PRS 0/1
BY96	W.F. YANKEE FORK	CHINOOK CAPTIVE		6/22/99	99-201	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	RS; FAT 0/1, ELISA 1/1 (O.D. = 0.146), WHD-DIGEST 0/1
BY97	REDFISH LAKE	SOCKEYE SALMON		6/25/99	99-205	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE		6/30/99	99-206	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 0/1, ELISA 1/1 (O.D. = 0.493)
BY95	LEMHI RIVER	CHINOOK CAPTIVE		7/3/99	99-212	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1 (TNTC), ELISA 1/1 (O.D. = 3.415), WHD-DIGEST 0/1
BY96	REDFISH LAKE	SOCKEYE SALMON		7/6/99	99-213	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1, HISTO
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE		7/11/99	99-215	-	-	-	+	-	-	-	-	-	-	DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1(TNTC), WHD-DIGEST 0/1

LOCATION		Class		Sample Date	Accession	Species	Diagnoses										ExamType	Diagnoses
BroodYr	Stock						HN	FN	NAHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
BY96	REDFISH LAKE		SOCKEYE SALMON	9/2/99	99-294		-	-	+								DIAGNOSTIC	RS, FIBROMA; VIRO 0/1, ELISA 1/1 (O.D.=0.110), HISTO
BY94	W.F. YANKEE FORK		CHINOOK CAPTIVE	9/2/99	99-299		-	-	+						-		DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (O.D.=0.124), WHD-DIGEST 0/1, PRS 0/1
BY98	W.F. YANKEE FORK		CHINOOK SALMON	9/5/99	99-301		-	-	-						-		DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1, WHD-DIGEST 0/1
BY98	REDFISH LAKE		SOCKEYE SALMON	9/6/99	99-302		-	-	-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, FAT 0/1, ELISA 0/1
BY96	REDFISH LAKE		SOCKEYE SALMON	9/7/99	99-304		-	-	-					+			DIAGNOSTIC	MAS; VIRO 0/1, FAT 0/1, ELISA 0/1, AEROMONAS HYDROPHILA 1/1
BY98	EAST FORK SALMON RIVER		CHINOOK SALMON	9/8/99	99-308		-	-	+						-		DIAGNOSTIC	BKD; VIRO 0/1, ELISA 1/1 (O.D.=2.257), WHD-DIGEST 0/1
BY98	REDFISH LAKE		SOCKEYE SALMON	9/9/99	99-312		-	-	-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY96	REDFISH LAKE		SOCKEYE SALMON	9/9/99	99-314		-	-	+								DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (O.D.=0.135)
BY98	W.F. YANKEE FORK		CHINOOK CAPTIVE	9/10/99	99-315		-	-	+						-		DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (O.D.=0.102), WHD-DIGEST 0/1
BY94	W.F. YANKEE FORK		CHINOOK SALMON	9/10/99	99-316		-	-	+						-		INSPECTION	BKD; VIRO 0/2, FAT 1/1(TNTC), ELISA 1/2 (O.D.=3.324), WHD-DIGEST 0/2, PRS 0/2
BY94	EAST FORK SALMON RIVER		CHINOOK CAPTIVE	9/10/99	99-317		-	-	+								INSPECTION	BKD; VIRO 0/2, FAT 1/1 (TNTC), ELISA 2/2 (O.D.s=0.105, 3.137), PRS 0/2
BY96	W.F. YANKEE FORK		CHINOOK CAPTIVE SPAWNER	9/11/99	99-318		-	-	+						-		DIAGNOSTIC	RS; VIRO 0/2, ELISA 2/2 (O.D.s = 0.157, 0.103), WHD-DIGEST 0/2
BY97	W.F. YANKEE FORK		CHINOOK CAPTIVE	9/13/99	99-319		-	-	-						-		DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1, PRS 0/1
BY97	W.F. YANKEE FORK		CHINOOK CAPTIVE SPAWNER	9/11/99	99-320		-	-	-						-		DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1, PRS 0/1
BY94	LEMHI RIVER		CHINOOK CAPTIVE	9/17/99	99-339		-	-	+						-		DIAGNOSTIC	BKD; VIRO 0/1, ELISA 1/1 (O.D.=2.694), WHD-DIGEST 0/1,
BY98	EAST FORK SALMON RIVER		CHINOOK CAPTIVE	9/23/99	99-343		-	-	-						-		DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1
BY97	W.F. YANKEE FORK		CHINOOK CAPTIVE	9/29/99	99-350		-	-	-						+		INSPECTION	WHD; VIRO 0/16, ELISA 0/16, MYXOBOLUS CEREBRALIS-DIGEST 1/16, PRS 0/16
BY96	W.F. YANKEE FORK		CHINOOK CAPTIVE SPAWNER	9/29/99	99-351		-	-	-						-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1
BY97	W.F. YANKEE FORK		CHINOOK CAPTIVE SPAWNER	9/29/99	99-352		-	-	-						-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1
BY94	EAST FORK SALMON RIVER		CHINOOK CAPTIVE SPAWNER	10/1/99	99-355		-	-	+						-		DIAGNOSTIC	RS; VIRO 0/3, ELISA 3/3 (O.D.s=0.150, .0218, 0.271), WHD-DIGEST 0/3, PRS 0/1
ANAD	REDFISH LAKE		SOCKEYE SPAWNER	10/1/99	99-356		-	-	-						+		DIAGNOSTIC	WHD; VIRO 0/1, ELISA 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1 HISTO 1/1 PCR 1/1, PRS 0/1
BY98	EAST FORK SALMON RIVER		CHINOOK CAPTIVE	10/4/99	99-357		-	-	+						-		DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1(OD 0.100), WHD-DIGEST 0/1
ANAD	REDFISH LAKE		SOCKEYE SPAWNER	10/8/99	99-366		-	-	-						+	-	INSPECTION	WHD; VIRO 0/1, FAT 0/1, ELISA 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1, CSH 0/1, PRS 0/1

LOCATION		Class		Sample		Diagnoses									
BroodYr	Stock	Species	Accession	Date	ExamType	INS	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-367	10/8/99	INSPECTION	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-370	10/13/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SALMON	99-371	10/14/99	DIAGNOSTIC	-	-	-	+	-	-	+	+	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-372	10/15/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SALMON	99-373	10/17/99	DIAGNOSTIC	-	-	-	+	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-375	10/19/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-378	10/22/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY98	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	99-379	10/25/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-383	10/27/99	INSPECTION	-	-	-	-	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SPAWNER	99-384	10/27/99	INSPECTION	-	-	-	-	-	-	-	-	-	-
BY98	LEMHI RIVER	CHINOOK NP	99-386	10/28/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	+	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-387	10/29/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
ANAD 98	REDFISH LAKE	SOCKEYE SPAWNER	99-388	10/29/99	INSPECTION	-	-	-	-	-	-	-	-	+	-
BY98	LEMHI RIVER	CHINOOK EC NP	99-390	10/30/99	DIAGNOSTIC	-	-	-	+	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SALMON	99-391	11/1/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-392	11/2/99	INSPECTION	-	-	-	-	-	-	-	-	-	-
ANAD96	REDFISH LAKE	SOCKEYE SPAWNER	99-393	11/2/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SALMON	99-395	11/3/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-396	11/4/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-397	11/5/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY96	REDFISH LAKE	SOCKEYE SPAWNER	99-398	11/7/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SPAWNER	99-399	11/7/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SPAWNER	99-400	11/8/99	INSPECTION	-	-	-	+	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SPAWNER	99-401	11/9/99	DIAGNOSTIC	-	-	-	-	-	-	-	-	-	-
BY97	REDFISH LAKE	SOCKEYE SPAWNER	99-402	11/9/99	INSPECTION	-	-	-	+	-	-	-	-	-	-

NO PATHOGENS DETECTED; VIRO 02, ELISA 02

RS: VIRO 06, ELISA 36 (O.D.s = 0.104, 0.110, 0.108)

RS: CWD, MAS, MYCOSIS; VIRO 01, ELISA 1/1 (0.100), AEROMONAS HYDROPHILA 1/1, FLAVOBACTERIUM PSYCHROPHILUM 1/1, PRS 0/1

RS: VIRO 0/26, ELISA 8/26 (O.D.s = 0.118, 0.113, 0.106, 0.110, 0.103, 0.104, 0.102, 0.101)

RS: VIRO 0/1, ELISA 1/1 (O.D. = 0.102)

RS: VIRO 0/18, ELISA 4/18 (O.D.s = 0.110, 0.127, 0.129, 0.100)

RS: LYMPHOSARCOMA; VIRO 0/18, ELISA 5/18 (O.D.s = 0.109, 0.105, 0.116, 0.101, 0.115), HISTOLYMPHOSARCOMA 1/1

INTERNAL MYCOSIS; VIRO 0/1, ELISA 0/1, FUNGUS 1/1

NO PATHOGENS DETECTED; VIRO 04, ELISA 0/4

NO PATHOGENS DETECTED; VIRO 01, ELISA 0/1

WHD; ELISA 0/1, VIRO 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1 PCR 1/1

RS: VIRO 0/7, ELISA 2/7

WHD; VIRO 0/1, ELISA 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1, CSH 0/1, PRS 0/1

BKD; VIRO 0/1, ELISA 1/1 (O.D.=2.623), WHD-DIGEST 0/1

NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1

NO PATHOGENS DETECTED; VIRO 0/5, ELISA 0/5

BKD; VIRO 0/1, ELISA 1/1 (O.D. = 1.094), WHD-DIGEST 0/1, CSH 0/1, PRS 0/1

NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1

EXTERNAL MYCOSIS; VIRO 0/1, ELISA 0/1

EXTERNAL MYCOSIS; VIRO 0/2, ELISA 0/2

NO PATHOGENS DETECTED, POST-SPAWN MORTALITY; VIRO 0/1, ELISA 0/1

NO PATHOGENS DETECTED, POST-SPAWN MORTALITY; VIRO 0/2, ELISA 0/2

RS: VIRO 0/1, ELISA 1/1(O.D. = 0.102)

NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1

RS: VIRO 0/4, ELISA 1/4 (O.D.=0.100)

LOCATION		Class		Accession	Sample Date	ExamType										Diagnoses	
BroodYr	Stock	Species				RH	RM	MAVIS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
BY97	W.F. YANKEE FORK	CHINOOK EC NP		99-403	11/9/99	-	-	-	+	-	-	-	-	-	-	RS: VIRO 0/1, ELISA 1/1 (O.D. = 0.100), WHD-DIGEST 0/1	
BY98	LEMHI RIVER	CHINOOK EC NP		99-404	11/10/99	-	-	-	-	-	-	-	-	+	-	WHD: VIRO 0/1, ELISA 0/1, MYXOBOLUS CEREBRALIS-DIGEST 1/1	
BY98	W.F. YANKEE FORK	CHINOOK EC NP		99-407	11/18/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED, HANDLING STRESS; VIRO 0/2, FAT 0/2, ELISA 0/2, WHD-DIGEST 0/2	
BY96	LEMHI RIVER	CHINOOK EC NP		99-420	11/19/99	-	-	-	+	-	-	-	-	+	-	RS: VIRO 0/1, ELISA 1/1 (O.D. = 0.105), MYXOBOLUS CEREBRALIS-DIGEST 1/1	
BY97	REDFISH LAKE	SOCKEYE SALMON		99-422	11/22/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY97	REDFISH LAKE	SOCKEYE SALMON		99-429	12/2/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY96	REDFISH LAKE	SOCKEYE SALMON		99-430	12/6/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3	
BY98	REDFISH LAKE	SOCKEYE SALMON		99-431	12/8/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY98	EAST FORK SALMON RIVER	CHINOOK EC NP		99-433	12/11/99	-	-	-	+	-	-	-	-	-	-	RS: VIRO 0/1, ELISA 1/1 (OD=0.100), WHD-DIGEST 0/1	
BY98	REDFISH LAKE	SOCKEYE SALMON		99-434	12/11/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY98	EAST FORK SALMON RIVER	CHINOOK EC NP		99-435	12/12/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD-DIGEST 0/1	
BY96	REDFISH LAKE	SOCKEYE SALMON		99-441	12/15/99	-	-	-	+	-	-	-	-	-	-	RS: VIRO 0/1, ELISA 1/1 (OD=0.100)	
BY96	REDFISH LAKE	SOCKEYE SALMON		99-444	12/16/99	-	-	-	+	-	-	-	-	-	-	RS: VIRO 0/1, ELISA 1/1 (OD=0.115)	
BY98	REDFISH LAKE	SOCKEYE SALMON		99-450	12/22/99	-	-	-	-	-	-	-	-	-	-	OPTIC ANOMALY; HISTO	
BY98	REDFISH LAKE	SOCKEYE SALMON		99-454	12/23/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
EAGLE WET LAB																	
1998	TROUT LODGE	KAMLOOPS RBT	D	99-002	1/4/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-DIGEST 16/20 (S.F. BOISE RIVER EXPOSURE TRIAL)	
1998	TROUT LODGE	KAMLOOPS RBT		99-008	1/2/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-HISTO 1/2 (S.F. BOISE RIVER EXPOSURE TRIAL)	
1998	TROUT LODGE	KAMLOOPS RBT		99-022	2/1/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-DIGEST 9/20 (S.F. BOISE RIVER EXPOSURE TRIAL)	
1998	TROUT LODGE	KAMLOOPS RBT		99-040	3/4/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-DIGEST 18/20 (S.F. BOISE RIVER EXPOSURE TRIAL)	
1998	TROUT LODGE	KAMLOOPS RBT		99-078	4/2/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-DIGEST 18/20 (S.F. BOISE RIVER EXPOSURE TRIAL)	
N/A				99-127	3/2/99	-	-	-	-	-	-	-	-	-	-	VACCINE STERILITY CHECK: NO GROWTH AFTER 7 DAYS	
1998	TROUT LODGE	KAMLOOPS RBT		99-145	5/4/99	-	-	-	-	-	-	-	-	-	+	WHD: MYXOBOLUS CEREBRALIS-DIGEST 13/20 (S.F. BOISE RIVER EXPOSURE TRIAL)	
1998	HAYSPUR	RAINBOW TROUT		99-146	5/4/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; WHD-DIGEST 0/18 (EAGLE SETTLING POND EXPOSURE)	

LOCATION		Class			Sample		ExamType										Diagnoses	
Broodyr	Stock	Species	Accession	Date	IHN	IPN	IAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ExamType	Diagnoses		
1999	HAYSPUR	RAINBOW TROUT	99-071	3/30/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/4, FLAVOBACTERIUM PSYCHROPHILUM 4/4		
1999	HAYSPUR	RAINBOW TROUT	99-092	4/13/99	+	-					+	-			DIAGNOSTIC	IHN, CWD; IHNV 1/1 (x5), IPNV 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4		
1999	HAYSPUR	KAMLOOPS RBT	99-093	4/13/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4		
1999	HAYSPUR	RAINBOW TROUT	99-094	4/13/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/4, FLAVOBACTERIUM PSYCHROPHILUM 4/4		
1999	HAYSPUR	RAINBOW TROUT	99-095	4/13/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/4, FLAVOBACTERIUM PSYCHROPHILUM 2/4		
1998	TROUT LODGE	KAMLOOPS RBT	99-096	4/13/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/4, FLAVOBACTERIUM PSYCHROPHILUM 1/4		
1998	HAYSPUR	RAINBOW TROUT	99-097	4/13/99	+	-					+	+			DIAGNOSTIC	IHN, CWD, MAS; IHNV 1/1 (x3), IPNV 0/3, FLAVOBACTERIUM PSYCHROPHILUM 3/3, AEROMONAS HYDROPHILA 1/3, PLESIONOMAS SHIGELLOIDES 1/3		
1998	TROUT LODGE	KAMLOOPS RBT	99-134	4/29/99	+	-					-	-			INSPECTION	IHNV; IHNV 1/20 (X5), IPNV 0/100, BACTE 0/20, PKX 0/2.		
1999	HAYSPUR	KAMLOOPS RBT	99-181	5/25/99	-	-					+				DIAGNOSTIC	CWD; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 8/8		
1998	HAYSPUR	RAINBOW TROUT	99-182	5/25/99	-	-					+	-			DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/4		
1998	HAYSPUR	RAINBOW TROUT	99-183	5/25/99	+	-					+	+			DIAGNOSTIC	IHNV, COLUMNARIS, CWD, MAS; IHNV 2/2 (x4&5), IPNV 0/9, FLAVOBACTERIUM COLUMNARE 6/8, FLAVOBACTERIUM PSYCHOPHILUM 2/8, AEROMONAS SPP. 1/8		
1999	HAYSPUR	KAMLOOPS RBT	99-191	6/7/99	+	-					+	-			DIAGNOSTIC	IHN, CWD; IHNV 3/3 (x5), IPNV 0/15, FLAVOBACTERIUM PSYCHROPHILUM 7/8		
1998	HAYSPUR	RAINBOW TROUT	99-196	6/14/99	-	-					+	-			INSPECTION	CWD (carrier), VIRO 0/60, FLAVOBACTERIUM PSYCHROPHILUM 1/15		
1999	HAYSPUR	KAMLOOPS RBT	99-197	6/14/99	+	-					+	-			DIAGNOSTIC	IHN, CWD; IHNV 4/4 (x5), IPNV 0/20, FLAVOBACTERIUM PSYCHROPHILUM 1/10, HISTO		
HAYSPUR HATCHERY																		
BROOD	HAYSPUR	RAINBOW TROUT	99-003	1/6/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, OCP-FAT 0/5		
1997	HAYSPUR	RAINBOW TROUT	99-039	3/2/99	-	-					+	+			DIAGNOSTIC	CWD, MAS; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 4/8, AEROMONAS HYDROPHILA 1/8		
1997	HAYSPUR	RAINBOW TROUT	99-202	6/22/99	-	-					+	-		+	INSPECTION	RS, WHD; VIRO 0/60, FAT 0/60, ELISA 9/30 (x2), BACTE 0/20, MYXOBOLUS CEREBRALIS-DIGEST 1/6 (x5) PCR 2/5		
1997	HAYSPUR	KAMLOOPS RBT	99-203	6/24/99	-	-					+	-		-	INSPECTION	RS, CWD; VIRO 0/60, FAT 0/60, ELISA 8/30(x2), FLAVOBACTERIUM PSYCHROPHILUM 1/21, WHD-DIGEST 0/30		
1999	HAYSPUR	RAINBOW TROUT	99-226	7/21/99											RESEARCH	VACCINE SAFETY TEST; HISTO-NO ADVERSE RESPONSE		
BROOD	HAYSPUR	RAINBOW TROUT	99-374	10/18/99	-	-					+				INSPECTION	RS; VIRO 0/20, OCP-FAT 0/20, ELISA 2/10		
BROOD	HAYSPUR	KAMLOOPS RBT	99-385	10/27/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, OCP-FAT 0/20, ELISA 0/10		
BROOD	HAYSPUR	RAINBOW TROUT	99-394	11/2/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30, OCP-FAT 0/30, ELISA 0/10		
BROOD	HAYSPUR	KAMLOOPS RBT	99-405	11/10/99	-	-					+				INSPECTION	RS; VIRO 0/30, OCP-FAT 1/30, ELISA 2/10		

LOCATION		Class		Sample Date	Accession	ExamType										Diagnoses
BroodYr	Stock	Species				RN	IPN	NAVMS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	
BROOD	HAYSPUR	RAINBOW TROUT		11/17/99	99-406	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/50, OCP-FAT 0/50, ELISA 0/10
BROOD	HAYSPUR	KAMLOOPS RBT		11/24/99	99-425	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/50, OCP-FAT 0/50, ELISA 0/10
BROOD	HAYSPUR	RAINBOW TROUT		12/1/99	99-428	-	-	-	+	-	-	-	-	-	-	RS; VIRO 0/50, OCP-FAT 0/50, ELISA 1/10
BROOD	HAYSPUR	KAMLOOPS RBT		12/8/99	99-432	-	-	-	+	-	-	-	-	-	-	RS; VIRO 0/23, OCP-FAT 1/23, ELISA 1/10
BROOD	HAYSPUR	RAINBOW TROUT		12/15/99	99-442	-	-	-	+	-	-	-	-	-	-	RS; VIRO 0/30, OCP-FAT 0/30, ELISA 1/10
1998	HAYSPUR	RAINBOW TROUT		12/15/99	99-443	-	-	-	-	-	-	+	+	+	-	CWD, MAS; VIRO 0/8; FLAVOBACTERIUM PSYCHROPHILUM 8/8, AEROMONAS CAVIAE 8/8
BROOD	HAYSPUR	KAMLOOPS RBT		12/22/99	99-451	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/24, OCP-FAT 0/24, ELISA 0/10
BROOD	HAYSPUR	RAINBOW TROUT		12/29/99	99-456	-	-	-	+	-	-	-	-	-	-	RS; VIRO 0/20, OCP-FAT 0/20, ELISA 1/10
HENRYS LAKE																
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/9/99	99-056A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/77
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/11/99	99-056B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/42
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/15/99	99-056C	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/91
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/18/99	99-062A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/70
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/22/99	99-062B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/70, OCP-FAT 0/98
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/25/99	99-072A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		3/29/99	99-072B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/1/99	99-081A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/5/99	99-081B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/70, OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/8/99	99-098A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/12/99	99-098B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/77
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/20/99	99-112	-	-	-	+	-	-	+	-	+	+	RS, CWD, WHD; VIRO 0/60, FAT 0/60, ELISA 12/12 (x5, ALL LOW), FLAVOBACTERIUM PSYCHROPHILUM 7/12, MYXOBOLUS CEREBRALIS-DIGEST 7/12 (x5) PCR 8/10
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/15/99	99-113	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/77
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/19/99	99-114	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/63, OCP-FAT 0/105
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/22/99	99-125A	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/70
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/26/99	99-125B	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/70
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/29/99	99-155	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/70
BROOD	HENRYS LAKE	CUTTHROAT TROUT		4/29/99	99-156	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; OCP-FAT 0/70

LOCATION		Class		Sample Date	Accession	Diagnoses										ExamType	Diagnoses
BroodYr	Stock	Species				HN	IPN	NAHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
IDAHO FISH HEALTH CENTER																	
UNKNOWN		UNKNOWN	RAINBOW TROUT	7/1/99	99-209											+	WHD; MYXOBOLUS CEREBRALIS-PCR 1/(x10)
KOOTENAY TROUT HATCHERY																	
1998	CONNOR LAKE (CANADA)		WESTSLOPE CUTTHROAT TROUT	5/17/99	99-170	-	-		+	-	-	-	-	-	-	-	RS, PSEUDOMONAS; VIRO 0/60, FAT 0/60, ELISA 4/12 (x5), PSEUDOMONAS FLUORESCENS 15/60, WHD-DIGEST 0/60
LYON'S FERRY HATCHERY																	
BROOD	RAPID RIVER		SPRING CHINOOK SALMON	9/8/99	99-313	-	-		+								BKD; VIRO 0/30, ELISA 17/30 (14 LOW, 3 HIGH)
MAGIC VALLEY HATCHERY																	
1998	DWORSHAK		STEELHEAD, B GROUP	2/11/99	99-031	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1998	PAHSIMEROI		STEELHEAD, A GROUP	2/11/99	99-032	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1998	DWORSHAK		STEELHEAD, B GROUP	3/30/99	99-068	-	-		-						-	-	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD-DIGEST 0/20
1998	PAHSIMEROI		STEELHEAD, A GROUP	3/30/99	99-069	-	-		-						-	-	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD-DIGEST 0/20
1999	DWORSHAK		STEELHEAD, B GROUP	7/30/99	99-240	-	-		-	-	+	+	-	-	-	-	CWD, MAS, PSEUDOMONAS; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 68, AEROMONAS SOBRIA 5/8, PSEUDOMONAS FLUORESCENS 1/8
1998	EAST FORK SALMON RIVER		STEELHEAD, B GROUP	9/28/99	99-353	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
BY98	SAWTOOTH		STEELHEAD, A GROUP	9/28/99	99-354	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
BY99	PAHSIMEROI		STEELHEAD, A GROUP	10/26/99	99-381	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
BY99	DWORSHAK		STEELHEAD, B GROUP	10/26/99	99-382	-	-		-	-	-	+	+	-	-	-	CWD; VIRO 0/3, FLAVOBACTERIUM PSYCHROPHILUM 3/3, STREPTOCOCCUS SPP. 2/3, ACINETOBACTER CALCOACETICUS 2/3
1999	DWORSHAK		STEELHEAD, B GROUP	12/22/99	99-452	-	-		-	-	-	+	+	-	-	-	CWD; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/8
1999	HELLS CANYON (SNAKE RIVER)		STEELHEAD, A GROUP	12/23/99	99-453	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
MCCALL HATCHERY																	
1997	S.F. SALMON RIVER		SUMMER CHINOOK SALMON	1/21/99	99-010				-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; FAT 0/10, BACTE 0/4
1997	S.F. SALMON RIVER		SUMMER CHINOOK SALMON	2/25/99	99-037	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/6, FAT 0/6, BACTE 0/6
1997	S.F. SALMON RIVER		SUMMER CHINOOK SALMON	3/19/99	99-057	-	-		+						-	-	RS; VIRO 0/20, FAT 0/20, ELISA 4/4 (X5), WHD-DIGEST 0/20
1998	S.F. SALMON RIVER		SUMMER CHINOOK SALMON	6/23/99	99-204	-	-		-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE 0/4
1998	S.F. SALMON RIVER		SUMMER CHINOOK SALMON	8/10/99	99-249	-	-		-	-	-	-	-	+	-	-	MAS; VIRO 0/10, FAT 0/10, AEROMONAS CAVIAE 4/8

Page 17

LOCATION		Class		Sample Date	Accession	Diagnoses										ExamType	Diagnoses
BroodYr	Stock	Species				FWH	PN	NAHNS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
1998	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		9/24/99	99-347	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10
1998	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		12/9/99	99-436	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE 0/8
NAMPA HATCHERY																	
A																	
1998	HAYSPUR	RAINBOW TROUT		1/27/99	99-014	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS (carrier); VIRO 0/5, AEROMONAS CAVIAE 1/4 (single colony), BLUEGREEN ALGAE 0/4
1998	TROUT LODGE	KAMLOOPS RBT		1/27/99	99-015	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 7/8
1999	HAYSPUR	RAINBOW TROUT		3/9/99	99-044	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS; VIRO 0/10, AEROMONAS SOBRIA 1/10
1999	HAYSPUR	RAINBOW TROUT		3/15/99	99-050	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS; AEROMONAS HYDROPHILA 6/6
1998	HAYSPUR	KAMLOOPS RBT		3/22/99	99-060	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS; AEROMONAS HYDROPHILA 8/8
1998	HAYSPUR	KAMLOOPS RBT		4/8/99	99-085	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/4
1998	TROUT LODGE	KAMLOOPS RBT		4/27/99	99-123	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/100, BACTE 0/16
1999	HAYSPUR	RAINBOW TROUT - TRIPLOID		7/1/99	99-207	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS, BACTEREMIA; VIRO 0/5, AEROMONAS HYDROPHILA 5/5, SHEWANELLA PUTRIFICANS 1/5
1999	HAYSPUR	KAMLOOPS RBT		7/1/99	99-208	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS, BACTEREMIA; VIRO 0/5, AEROMONAS SOBRIA 5/5, SHEWANELLA PUTRIFICANS 5/5
1999	HAYSPUR	RAINBOW TROUT		8/24/99	99-270	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS; VIRO 0/10, AEROMONAS HYDROPHILA 5/5
1998	TROUT LODGE	KAMLOOPS RBT		8/23/99	99-271	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	PSEUDOMONAS, BLUEGREEN ALGAE TOXICOSIS; VIRO 0/4, PLESIONOMAS SHIGELLOIDES 2/4, PSEUDOMONAS SPP. 1/4, BLUEGREEN ALGAE 2/4
1999	TROUT LODGE	KAMLOOPS RBT		9/17/99	99-340	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	MAS, CWD; AEROMONAS SOBRIA 6/8, FLAVOBACTERIUM PSYCHROPHILUM 2/8
1999	HAYSPUR	RAINBOW TROUT		10/29/99	99-389	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 6/8
NATURE CENTER - BOISE																	
D																	
1998	CLEAR SPRINGS	RAINBOW TROUT		2/17/99	99-033	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	CWD (carrier); VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/4 (single colony)
NIAGARA SPRINGS HATCHERY																	
C																	
1998	PAHSIMEROI	STEELHEAD, A GROUP		1/27/99	99-016	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	FUR, CWD, MAS; VIRO 0/10, AEROMONAS SALMONICIDA 8/8, FLAVOBACTERIUM PSYCHROPHILUM 4/8, A. SOBRIA 4/8
1998	PAHSIMEROI	STEELHEAD, A GROUP		2/18/99	99-036	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	PSEUDOMONAS SEPTICEMIA; VIRO 0/10, PSEUDOMONAS FLUORESCENS 8/8
1998	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		3/29/99	99-065	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD-DIGEST 0/20
1998	PAHSIMEROI	STEELHEAD, A GROUP		3/29/99	99-066	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD-DIGEST 0/20

LOCATION		Class		Sample Date	Accession	Diagnoses										ExamType	Diagnoses
BroodYr	Stock	Species	Class			IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
1999	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		7/1/99	99-210	-	-	-	-	-	-	+	-	-	-	INSPECTION	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4
1999	PAHSIMEROI	STEELHEAD, A GROUP		7/1/99	99-211	-	-	-	-	-	-	+	+	-	-	INSPECTION	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4, AEROMONAS HYDROPHILA 1/4
1999	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		7/20/99	99-224	-	-	-	-	-	-	+	-	-	-	INSPECTION	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4
1999	PAHSIMEROI	STEELHEAD, A GROUP		7/20/99	99-225	-	-	-	-	-	-	+	-	-	-	INSPECTION	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/4
1999	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		8/4/99	99-242	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, WHD-DIGEST 0/10
1999	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		8/5/99	99-243	-	-	-	-	-	-	-	-	-	-	INSPECTION	PSEUDOMONAS; VIRO 0/10, PSEUDOMONAS FLUORESCENS/AUREOFACIENS 3/4, WHD-DIGEST 0/10
1999	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		9/17/99	99-336	-	-	-	-	-	-	-	-	-	-	INSPECTION	PSEUDOMONAS; VIRO 0/4, PSEUDOMONAS PUTIDA 4/4
1999	PAHSIMEROI	STEELHEAD, A GROUP		9/20/99	99-337	-	-	-	-	-	-	+	-	-	-	INSPECTION	CWD; VIRO 0/4, FLAVOBACTERIUM PSYCHROPHILUM 4/4
1999	PAHSIMEROI	STEELHEAD, A GROUP		9/17/99	99-338	-	-	-	-	-	-	+	+	-	-	INSPECTION	MAS, CWD; VIRO 0/4, AEROMONAS HYDROPHILA 4/4, FLAVOBACTERIUM PSYCHROPHILUM 4/4
BY99	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		11/30/99	99-426	-	-	-	-	-	-	+	-	-	-	INSPECTION	CWD(carrier); VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/8
BY99	PAHSIMEROI	STEELHEAD, A GROUP		11/20/99	99-427	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
BY99	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		12/27/99	99-455	+	-	-	-	-	-	+	-	-	-	DIAGNOSTIC	IHN, CWD; IPNV 1/2(x5), IPNV 0/10, FLAVOBACTERIUM PSYCHROPHILUM 4/8, AEROMONAS HYDROPHILA 2/8
OXBOW HATCHERY																	
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	C	3/25/99	99-064	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/57, FAT 0/24, WHD-DIGEST 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		4/8/99	99-086	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, FAT 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		4/15/99	99-104	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/34, FAT 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		4/19/99	99-108	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/16
PAHSIMEROI HATCHERY																	
1997	PAHSIMEROI	SUMMER CHINOOK SALMON	C	3/18/99	99-055	-	-	-	+	-	-	-	-	-	+	INSPECTION	RS, WHD; VIRO 0/20, FAT 0/20, ELISA 4/4 (x5), WHD-DIGEST 3/4 (x5)
BROOD	PAHSIMEROI	STEELHEAD, A GROUP		3/29/99	99-077	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30, FAT 0/20
BROOD	PAHSIMEROI	STEELHEAD, A GROUP		4/1/99	99-080	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30

LOCATION		Class		Sample Date	Accession	Diagnoses										ExamType	Diagnoses
BroodYr	Stock	Species				HN	PH	HAWS	BKD	FUR	ERM	CWD	IAS	WHD	CSH		
BROOD	PAHSIMEROI	STEELHEAD, A GROUP		4/5/99	99-083	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/48
BROOD	PAHSIMEROI	STEELHEAD, B GROUP		5/15/99	99-102	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/30
BROOD	PAHSIMEROI	STEELHEAD, A GROUP		4/19/99	99-115	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12
BROOD	PAHSIMEROI	STEELHEAD, A GROUP		3/18/99	99-131				-					-		INSPECTION	NO PATHOGENS DETECTED; FAT 0/40, WHD-DIGEST 0/18
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		8/23/99	99-278	-	-		+						+	INSPECTION	RS; VIRO 0/3, ELISA 3/3 (3 LOW), WHD-DIGEST 2/3
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		8/26/99	99-292	-	-		+					-	-	INSPECTION	RS; VIRO 0/7, ELISA 7/7 (7 LOW), WHD-DIGEST 0/7, CSH 0/3
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/7/99	99-309	-	-							-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/9, WHD-DIGEST 0/10
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/7/99	99-310				+							INSPECTION	BKD; ELISA 11/12 (8 LOW, 3 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/2/99	99-311				+							INSPECTION	BKD; ELISA 10/10 (6 LOW, 4 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/10/99	99-333	-	-		+					-		INSPECTION	BKD; VIRO 0/12, ELISA 12/12 (9 LOW, 3 HIGH), WHD-DIGEST 0/1
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/13/99	99-334	-	-		+					-		INSPECTION	RS; VIRO 0/17, ELISA 15/17 (15 LOW), WHD-DIGEST 0/3
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/16/99	99-341	-	-		+					-		INSPECTION	RS; VIRO 0/7, ELISA 6/6 (6 LOW), WHD-DIGEST 0/2
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/20/99	99-342	-	-		+					-		INSPECTION	BKD; VIRO 0/6, ELISA 6/6 (5 LOW, 1 HIGH), WHD-DIGEST 0/3
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON		9/23/99	99-344				+					-		INSPECTION	RS; VIRO 0/3, ELISA 2/3 (2 LOW), WHD-DIGEST 0/3
1999	HAYSPUR	RAINBOW TROUT		10/18/99	99-377	-	-		+		-	-	-	-	-	INSPECTION	BKD; VIRO 0/10, FAT 9/10 (2 TNTC), BACTE 0/10, WHD-DIGEST 0/10
C																	
POWELL SATELLITE																	
1997	POWELL	SPRING CHINOOK SALMON		4/8/99	99-090	-	-		+					-		INSPECTION	RS; VIRO 0/20, FAT 0/20, ELISA 3/4(x5), WHD-DIGEST 0/20
BROOD	POWELL	SPRING CHINOOK SALMON		8/6/99	99-251	-	-		+							INSPECTION	BKD; VIRO 0/9, ELISA 9/9 (8 LOW, 1 HIGH)
BROOD	POWELL	SPRING CHINOOK SALMON		8/10/99	99-252	-	-		+							INSPECTION	RS; VIRO 0/5, ELISA 5/5 (5 LOW)
BROOD	POWELL	SPRING CHINOOK SALMON		8/13/99	99-265	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4
BROOD	POWELL	SPRING CHINOOK SALMON		8/13/99	99-276A				+					-		INSPECTION	BKD; ELISA 4/4 (3 LOW, 1 HIGH), WHD-DIGEST 0/4
BROOD	POWELL	SPRING CHINOOK SALMON		8/20/99	99-276B	-	-		+							INSPECTION	RS; VIRO 0/4, ELISA 3/4 (3 LOW)
BROOD	POWELL	SPRING CHINOOK SALMON		8/24/99	99-276C	-	-		+							INSPECTION	BKD; VIRO 0/3, ELISA 3/3 (2 LOW, 1 HIGH)

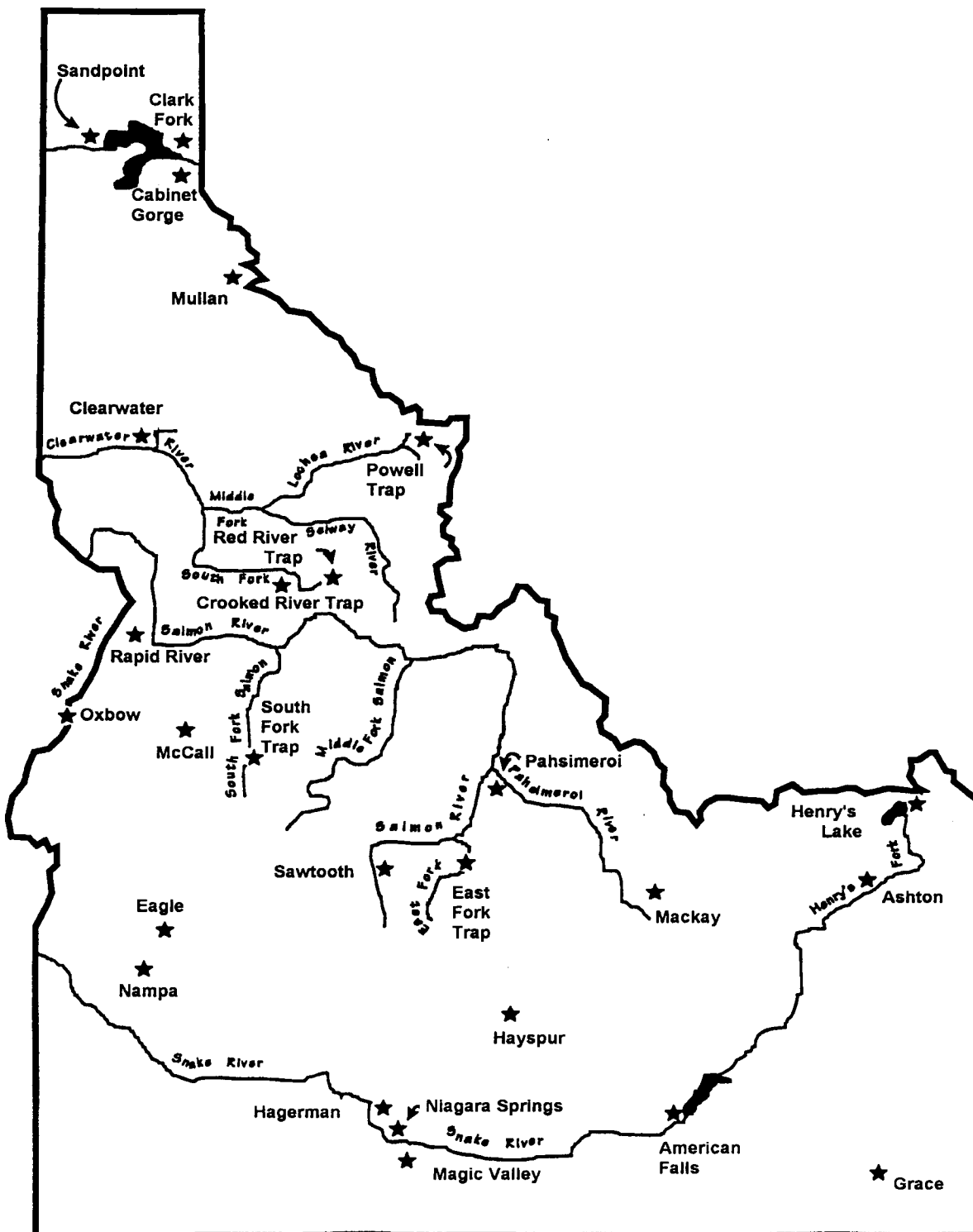
LOCATION BroodYr	Stock	Class Species	Accession	Sample Date	ExamType										Diagnoses
					HN	PH	NAHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	
BROOD	POWELL	SPRING CHINOOK SALMON	99-296A	8/27/99	-	-	-	+							RS; VIRO 0/1, ELISA 1/1 (1 LOW)
BROOD	POWELL	SPRING CHINOOK SALMON	99-296B	8/31/99	-	-	-	+							RS; VIRO 0/1, ELISA 1/1 (1 LOW)
PRIVATE															
1998	ARRAINA, INC	TILAPIA	99-018	1/28/99	-	-	-	-	-	-	-	-	-	-	NO REPORTABLE PATHOGENS DETECTED; VIRO 0/60, FAT(BKD) 0/60, FUR 0/60, ERM 0/60, CWD 0/60, Pseudomonas fluorescens 1/60, WHD-DIGEST 0/60, CSH 0/60
MIXED	EPICENTER AQUACULTURE	TILAPIA	99-107	4/20/99	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/60, FAT(BKD) 0/60, FUR 0/60, ERM 0/60, CWD 0/60, WHD-DIGEST 0/60, CSH 0/60
MIXED	FRANCONE POND	GOLDFISH	99-221	7/14/99					-	-	-	+			MAS, MULTIPLE PARASITISM; AEROMONAS HYDROPHILA 4/4, GYRODACTYLUS SPP. 2/4 (1 on gills), TRICHODINA SPP. 2/4 (few on gills).
UNKNOWN	UNKNOWN	GOLDFISH	99-234	7/27/99	-	-			-	-	-	+			GYRODACTYLUS, MAS, PSEUDOMONAS; VIRO 0/1, PSEUDOMONAS VESICULARIS 1/1, AEROMONAS SOLERIA 1/1, GYRODACTYLUS 1/1
1999	ACE DEVELOPMENT	TILAPIA	99-421	11/22/99	-	-	-	-	-	-	-	+	-	-	MAS; VIRO 0/60, FAT 0/60, AEROMONAS HYDROPHILA 2/60, A. CAVIAE 4/60, WHD-DIGEST 0/60, CSH 0/60
RANGEN AQUA CTR															
1999	RANGEN	RBT & RxC HYBRIDS	99-126	4/19/99				-							NO PATHOGENS DETECTED; FAT 0/60, WHD-DIGEST 0/59
RAPID RIVER HATCHERY															
1997	RAPID RIVER	SPRING CHINOOK SALMON	99-011	1/21/99				-	-	-	-	-			NO PATHOGENS DETECTED; FAT 0/10, BACTE 0/4
1997	RAPID RIVER	SPRING CHINOOK SALMON	99-048	3/11/99	-	-		+							RS, MYXOBOLUS, EIBS 0/20, FAT 0/20, ELISA 4/4(X5), WHD-DIGEST 0/20 HISTO 0/10 PCR 0/10, MYXOBOLUS-DIGEST 2/4 (x5) HISTO 0/10
1998	RAPID RIVER	SPRING CHINOOK SALMON	99-162	5/11/99	-	-		-	-	-	-	-			NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE 0/8
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-262	8/9/99				+							RS; ELISA 2/2 (2 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-263	8/16/99	-	-		+							BKD; VIRO 0/12, ELISA 8/12 (4 LOW, 4 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-266	8/19/99	-	-		+							RS; VIRO 0/16, ELISA 14/16 (14 LOW), WHD-DIGEST 0/20
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-272	8/24/99	-	-		+							BKD; VIRO 0/32, ELISA 35/36 (31 LOW, 4 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-281	8/26/99	-	-		+							RS; ELISA 25/31 (25 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-289	8/30/99				+							RS; ELISA 21/23 (21 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-305	9/2/99				+							RS; ELISA 15/15 (15 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-306	9/7/99				+							RS; ELISA 6/7 (6 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-345A	9/13/99				+							RS; ELISA 1/1(1 LOW)
BROOD	RAPID RIVER	SPRING CHINOOK SALMON	99-345B	9/15/99				+							RS; ELISA 1/1 (1 LOW)
1998	RAPID RIVER	SPRING CHINOOK SALMON	99-346	9/24/99	-	-		-	-	-	-	-			NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE 0/8

LOCATION		Class		Sample		Diagnoses										Page 22	
BroodYr	Stock	Species	Accession	Date	WH	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ExamType	Diagnoses	
BY98	RAPID RIVER	SPRING CHINOOK SALMON	99-437	12/9/99				-	-	-	-	-	-		INSPECTION	PSEUDOMONAS; VIRO 0/10, FAT 0/10, PSEUDOMONAS SPP. 3/8	
RED RIVER SATELLITE																	
1997	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-089	4/7/99	-	-		+						-	INSPECTION	RS; VIRO 0/20, FAT 0/20, ELISA 4/4 (X5), WHD-DIGEST 0/20	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-277	8/18/99	-	-		+							INSPECTION	BKD; VIRO 0/2, ELISA 2/2 (1 LOW, 1 HIGH)	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-295A	8/26/99	-	-		+							INSPECTION	BKD; VIRO 0/2, ELISA 1/2 (1 HIGH)	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-295B	8/31/99	-	-		+							INSPECTION	RS; VIRO 0/2, ELISA 1/2 (1 LOW)	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-295C	8/26/99									-		INSPECTION	NO PATHOGENS DETECTED; WHD-DIGEST 0/20	
1998	S.F. CLEARWATER RIVER	SPRING CHINOOK SALMON	99-349	9/26/99	-	-		+					-		INSPECTION	RS; VIRO 0/20, FAT 0/18, ELISA 4/4 (x5), WHD-DIGEST 0/20	
SANDPOINT HATCHERY																	
1998	WESTSLOPE TROUT COMPANY	WESTSLOPE CUTTHROAT TROUT	99-165	5/11/99	-	-		-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/25, FAT 0/24, BACTE 0/8, WHD-DIGEST 0/25	
SAWTOOTH HATCHERY																	
1998	SAWTOOTH	SPRING CHINOOK SALMON	99-030	2/4/99				-	-	-	-	-	-		INSPECTION	BACTEREMIA; FAT 0/10, FLAVOBACTERIUM ODORATUM 8/8	
1997	SAWTOOTH	SPRING CHINOOK SALMON	99-054	3/17/99	-	-		+					+		INSPECTION	RS, WHD; VIRO 0/20, FAT 0/20, ELISA 4/4 (x5), WHD-DIGEST 1/4 (x5)	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-082	4/5/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-084	4/6/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1	
BROOD	SALMON RIVER	STEELHEAD, B GROUP	99-087	4/8/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-099	4/12/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/23	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-100	4/9/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-103	4/13/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-110	4/15/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-111	4/16/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-116	4/19/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/79	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-117	4/20/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-121	4/23/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/93	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-122	4/23/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-124	4/25/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/71	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-132	4/29/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/38	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-133	4/27/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2	

LOCATION		Class		Sample		ExamType										Diagnoses	
BroodYr	Stock	Species	Accession	Date	IN	IPN	NAVHS	BKD	FUR	ERM	CWD	IAS	WHD	CSH	ExamType	Diagnoses	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-150	5/3/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	99-153	5/5/99				-					+		INSPECTION	WHD; FAT 0/16, MYXOBOLUS CEREBRALIS-DIGEST 1/6 (x5)	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	99-154	5/5/99				-					+		INSPECTION	WHD; FAT 0/60, MYXOBOLUS CEREBRALIS-DIGEST 1/5 (x5)	
1998	PAHSIMEROI	SUMMER CHINOOK SALMON	99-214	7/6/99	-	-		-	-	-	-	-			DIAGNOSTIC	PSEUDOMONAS: VIRO 0/10, FAT 0/10, PSEUDOMONAS SPP. 3/8	
1998	PAHSIMEROI	SUMMER CHINOOK SALMON	99-219	7/12/99	-	-			-	-	-	-			DIAGNOSTIC	BACTEREMIA; VIRO 0/5, ENTEROBACTER SPP. 4/8	
1998	REDFISH LAKE	SOCKEYE SALMON	99-227	7/22/99	-	-		-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/12, FAT 0/12, BACTE 0/12, WHD-DIGEST 0/12 PCR 0/12	
1998	SAWTOOTH	SPRING CHINOOK SALMON	99-235	7/27/99				+	-	-	-	+			DIAGNOSTIC	BKD, MAS; FAT 5/6 (TNTC), AEROMONAS CAVIAE 4/4	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-261	8/16/99	-	-		+					-		INSPECTION	RS; VIRO 0/2, ELISA 2/2 (2 LOW), WHD-DIGEST 0/2	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-273	8/20/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-275	8/25/99	-	-		+							INSPECTION	RS; VIRO 0/6, ELISA 5/6 (5 LOW)	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-283	8/27/99	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-293	9/1/99	-	-		+					-		INSPECTION	RS; VIRO 0/2, ELISA 2/2 (2 LOW), WHD-DIGEST 0/2	
BROOD	SAWTOOTH	SPRING CHINOOK SALMON	99-300	9/3/99				+					-		INSPECTION	RS; ELISA 2/2 (2 LOW), WHD-DIGEST 0/16	
BY98	REDFISH LAKE	SOCKEYE SALMON	99-358	10/7/99	-	-		+							INSPECTION	RS; VIRO 0/20, ELISA 1/4 (x5, OD=0.119)	
BY98	REDFISH LAKE	SOCKEYE SALMON	99-359	10/7/99	-	-		+							INSPECTION	RS; VIRO 0/20, ELISA 1/4 (x5, OD=0.137)	
1998	SAWTOOTH	SPRING CHINOOK SALMON	99-376	10/18/99	-	-		+	-	-	-	-			INSPECTION	BKD; VIRO 0/10, FAT 9/10 (6 TNTC), BACTE 0/8	
BY98	SAWTOOTH	SPRING CHINOOK SALMON	99-423	11/4/99				+							RESEARCH	BKD; FAT 11/11 (9 TNTC), ELISA 11/11 (1 LOW, 10 HIGH)	
BY98	SAWTOOTH	SPRING CHINOOK SALMON	99-424	11/4/99				+							RESEARCH	BKD; FAT 17/17 (17 TNTC), ELISA 17/17 (ALL HIGH)	
SOUTH FORK TRAP																	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-250	8/10/99				+							INSPECTION	BKD; ELISA 4/4 (3 LOW, 1 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-254	8/13/99									-		INSPECTION	NO PATHOGENS DETECTED; WHD-DIGEST 0/20	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-264	8/17/99				+							INSPECTION	BKD; ELISA 14/15 (12 LOW, 2 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-267	8/20/99	-	-		+							INSPECTION	BKD; VIRO 0/60, ELISA 96/98 (85 LOW, 11 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-274	8/24/99				+							INSPECTION	BKD; ELISA 88/95 (74 LOW, 14 HIGH)	

LOCATION		Class		Sample										ExamType		Diagnoses	
BroodYr	Stock	Species	Accession	Date	#N	FN	NAVHS	BKD	FUR	ERM	CWD	MAS	WRD	CSH			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-285	8/27/99				+							INSPECTION	BKD; ELISA 33/44 (32 LOW, 1 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-290	8/31/99				+							INSPECTION	BKD; ELISA 70/83 (62 LOW, 8 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-303	9/4/99				+							INSPECTION	BKD; ELISA 24/30 (22 LOW, 2 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-307	9/7/99				+							INSPECTION	BKD; ELISA 36/39 (35 LOW, 1 HIGH)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	99-321	9/10/99				+							INSPECTION	BKD; ELISA 14/19 (13 LOW, 1 HIGH)	

IDAHO DEPARTMENT OF FISH AND GAME FISH HATCHERIES



Submitted by:


Keith Johnson
Fish Pathologist Supervisor

Douglas Burton
Resident Fish Pathologist

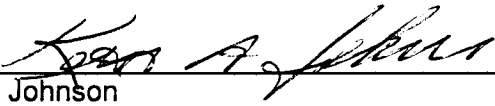
A. Douglas Munson
Anadromous Fish Pathologist

Approved by:

Idaho Department Of Fish and Game



Virgil K. Moore, Chief
Bureau of Fisheries



Keith Johnson
Fish Pathologist Supervisor